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Clinical Lectures

DELIVERED AT

UNIVERSITY COLLEGE HOSPITAL,

BY

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LECTURE II.

ON EPITHELIOMA.

GENTLEMEN,—We have had under our care during the last few weeks several cases of epithelioma of the lip, tongue, fauces, and penis. I will to-day direct your attention to the nature of this disease, as developed under our observation in these cases. The case to which I shall particularly refer, illustrates in a marked manner the nature, course, and distinctive characters of the disease. It is that of a soldier, sent up to me at this Hospital from Aldershot, a few weeks since, with the following history. He had served twenty-one years in the army, during a great part of which time he had been stationed in hot climates, and whilst there had suffered from the ordinary tropical diseases, as dysentery, etc.; otherwise, his health appeared to have been excellent. On admission, he was sallow, and somewhat emaciated; but otherwise in tolerably good health, and in excellent spirits, quite prepared, and indeed anxious, to undergo any operation which might be deemed advisable. About two years ago, he observed an ulcer on the tongue, about midway between the apex and base on the left side. This ulcer, small at first, yielded to no treatment that had been applied to it, and gradually increased in size and depth up to the present time. It was now irregular in shape, with induration of the tongue-substance beneath and around, and it was hollowed out, so that it would contain half a walnut. The patient never smoked, but recollected that he had a decayed and ragged tooth on the left side of the jaw at about the time of the appearance of the ulcer. In addition, there was on the left side of the neck a swelling, of the size of a goose's egg, first noticed about seven weeks before admission, firm, adherent, passing beneath the sterno-mastoid, and extending back to the trapezius on the sheath of the great vessels of the neck, in close connection with the carotid artery. There was also on the right side and in the anterior half of the submaxillary region, a second mass, of similar character, about as large as a walnut; the presence of these deposits precluded all idea of operating in this case, as it was impossible to remove the deposits in the glands, from their deep connections in the neck. I have just said the patient was sallow and emaciated when admitted, but otherwise in good health. Now, it is important to observe, that the man stated that he felt in excellent health, and had no wasting of the body, until the glandular tumours made their appearance, only seven weeks ago. He had been able to do his duty as a soldier up to that time; but so soon as these secondary deposits began to make their appearance, his strength began to fail. From the time of his admission till that of his death, a period of four weeks, the course of his disease was quickly run. The tumour rapidly increased, and he speedily sank into a low cachectic state, and finally died from exhaustion. During his stay here, he was never troubled with difficulty of swallowing or of breathing, nor was there any disease of the lungs or other viscera, as proved by the *post mortem* examination made last Friday. His tongue, which I have here, presents this appearance. The left side, from about half an inch behind the tip nearly to the base, is hollowed out by ulceration, and little more than the right half of the tongue-substance remains. In the neck, from beneath the jaw, reaching as low as the clavicle, is a softened mass of pultaceous consistence, forming the tumours before described. There are no secondary deposits whatever in the lungs or other internal organs, or any sign of visceral disease. Now, how did this man die? His powers of swallowing or breathing were never interrupted by the diseased state of his tongue, or by the tumour in the neck; he had no exhausting hæmorrhage or continued purulent discharge; nor was his death accelerated by secondary deposits in the internal organs interrupting their functions. Well, he died, as is commonly the mode in epithelioma, from a kind of poisoning of the blood. The nutrition and repair of the blood were interfered with from the time of the growth of the secondary tumour; and thus was gradually induced a cachectic state of the system, which increased, until the functions of the body could no longer be performed.

This case I have brought before you because it illustrates so well the characters of this disease, "epithelioma", which are very different to those accompanying true cancer. This case was one of so-called "cancer of the tongue;" but was it, and are similar ones in reality cancer? It is better to call it "cancroid," or "epithelial cancer," or "epithelioma," than cancer, as it presents features very dissimilar from those of true cancer; and in no respect do they differ more widely than in the way death is occasioned. How does true cancer prove fatal? It destroys life, as you saw in some cases lately in this hospital—one of the breast, another of the groin, and a third of the rectum—in various ways. 1. By the growth becoming adherent to, and ulcerating through, the skin, with abundant discharge of sanious pus, and fungous granulations, which bleed frequently; this recurrent hæmorrhage causing debility, and then exhaustion so great as to end in death. 2. By deposit of a similar nature to the primary growth in the internal organs, preventing the due discharge of their functions. In the case of scirrhus of the breast referred to, there were not only infiltrating masses of encephaloid growth penetrating the thoracic walls, giving rise to hydrothorax, but also secondary and distinct deposits in the lungs, and nodules, of a similar structure, occupying a great part of the liver. This organ (the liver) was likewise the seat of cancerous masses in the case of scirrhus of the rectum. Thus, in true cancer, death is preceded by, occasionally, profuse fœtid discharge, by hæmorrhage, or by secondary deposits. If the course be very rapid, it is true that secondary deposits may not always be found; as then exhaustion, from sudden and profuse hæmorrhage, is the immediate cause of the fatal event. In epithelioma, which has a local origin, and which cannot be considered to be the local growth and development of a constitutional state—as is the opinion that many hold with regard to true cancer—whether the form assumed by the epithelioma be the tubercular, the ulcerative, or the desquamating, as in the case of epithelioma of the lip I lately excised, however closely its histological and the naked eye characteristics resemble those of true cancer, however well marked the cachexy may be, yet the pathological signs are most distinct. It is true that secondary deposits, blood-poisoning, cachexia, great emaciation and exhaustion may, and often are, as well marked in one disease as in the other; still there is this radical difference in the secondary deposits, that in epithelioma the secondary deposits never pass more deeply into the system than the lymphatic glands; we find no deposits in internal organs, no cancerous nodules in the liver or lungs, as we do in true cancer, whenever the patient has lived long enough for the system to have become contaminated. This, then, appears to be the great surgical difference between those epithelial growths and the real cancerous tumours, though both classes have several characters of malignancy in common. The distinctive habit of true cancer to go on developing itself, independently of situation or relation to organs, whilst that of epithelioma is to confine itself to the infiltration of neighbouring tissues, is not merely a dry pathological fact, but one most fruitful of suggestion for the surgeon, and materially influencing the prospect of com-

plete immunity from recurrence after operation. The confounding of this form of disease with those tumours composed of real cancer, has caused the liability to error, and the variance of opinion of different surgeons in estimating the curability or the probability to recurrence of the disease after excision: removal of the first, viz., epithelioma of the tongue, lip, or penis, being followed by recovery, as the rule, whilst removal of true cancer is hardly ever more than a palliative measure; tolerably speedy recurrence taking place in nearly every case of the removal. For prevention of the recurrence of epithelioma, it is necessary that the growth be excised early, and that the knife be carried wide of the disease, so that all the deposits may be extirpated. If there be delay of the operation until after the disease has contaminated the absorbents, excision of the original mass does not effect a cure, part of the morbid structure being still left behind in these lymphatics, which will go on increasing in extent as if the primary mass still remained. If however, we excise at as early a stage of the disease as you saw me do in the cases of cancer of the lip and penis, there is no doubt that long life and perfect immunity may be insured. In cancer of the tongue, recurrence is more common than elsewhere, owing, I believe, to the difficulty and danger of thoroughly removing the disease, when infiltrating the lingual substance widely and deeply. Of the rarity of recurrence, the best proof is, that comparatively seldom do patients with "cancer" of the lip or penis return to us with a fresh growth, and when they do it is mostly a deposit in the neighbouring lymphatic glands, which had probably been contaminated before the operation, and not in the cicatrix itself, nor in internal organs. I have myself operated, eight, ten, and twelve years ago, on patients who have enjoyed good health to the present time, bearing nothing more than the seam left where the lip had been notched. I also know of a case of amputation of the penis where the patient has lived nearly thirty years after the operation; and during the last ten years I have removed the penis, in several cases of epithelioma, from men now doing well, and free from any return. In fact, epithelioma is, in its origin, but a local disease, arising from some special irritation, as in "chimney-sweeps' cancer," from the irritation of the soot; in "cancer of the tongue," from a ragged tooth; in "cancer of the penis," from a tight pressure retaining the secretions of the glands. In fact, the progress of epithelioma closely resembles that of a syphilitic sore. Just as the syphilitic virus produces its ulcer before any constitutional effect results, which does so—first by contamination of the lymphatics, and, after a longer interval, by the poisoning of the blood, and then the induction of general cachexy; so, in epithelioma, a precisely similar series of symptoms accompany the progress of the disease that has been primarily established by the local irritation. In epithelioma, as in syphilis, you have a sore resulting from local irritation, you have no sign of constitutional disturbance or cachexy for some months, or even longer, until the glands take up the poison, the blood then becomes contaminated, and marked cachexy sets in.

With regard to the mode of removal of epitheliomatous growths, I strongly advocate the knife. By the knife they can be removed much more cleanly, safely, expeditiously, and with less suffering, than by caustic. Should, however, caustic be deemed preferable in any case, the most powerful should be applied, so that the whole mass may be immediately and thoroughly destroyed, that the effect may be the same as when the knife is used. But if the less active caustics be employed, as the nitrate of silver, for instance, the cauterising effect is too weak for the destruction of the parts, and an irritating effect is produced, in addition to the caustic one; the neighbouring tissues become inflamed and infiltrated by plastic matter, which state of inflammation and infiltration is highly favourable to the spread of epithelial deposit.

Chicory and Belladonna. An apothecary of Passy, named Cadet, was lately tried by the Tribunal of Correctional Police for gross imprudence. The offence, which was clearly proved, consisted of his having sold for a sick person, chicory, in which by some means a small quantity of belladonna had got mixed; and so the patient was seized with vomitings and other symptoms of poisoning. The man said that he had sold the chicory as he had received it, and that he could not be expected to examine minutely every small portion that he disposed of to see that no strange substance had got mixed with it; but the Tribunal ruled that he was bound to do so. In addition, it was shown that the man had been insolent to the commissary of police who went to his shop on the matter. He was condemned to a fortnight's imprisonment.

Vacation Lectures

ON

FIBRINOUS DEPOSITION IN THE HEART:

ITS HISTORY AND PRACTICAL MEANING.

DELIVERED AT THE GROSVENOR PLACE SCHOOL OF MEDICINE.

By BENJAMIN W. RICHARDSON, M.A., M.D., M.R.C.P., Lecturer on Physiology at the School, and Senior Physician to the Royal Infirmary for Diseases of the Chest.

Lecture III.

Symptoms of Fibrinous Concretion (continued). Pathological Changes incident to Fibrinous Deposition in the Heart.

[*Concluded from p.* 184.]

Examples in which there is a relative increase of fibrine, leading to deposition, are of different kinds. As I have already explained, the increase may relate to deficiency of water or menstruum, or to deficiency or over-distribution of the alkaline solvent of the fibrine. These cases divide themselves naturally, therefore, into two classes.

Cases of the first class are met with most strikingly in cholera. In fatal cholera, if the symptoms are much prolonged and the blood is drained of its fluid to the last extreme, the blood is found after death, as might be expected, condensed to a treacly mass everywhere, with, as a general rule, a fibrinous separation in the heart, usually, in these instances, I believe, on the left side. The symptoms of concretion here are not clearly marked; for those pertaining specially to the disease mask the specific signs of deposit. In phthisis attended with profuse colliquative discharge either from the skin or the alimentary mucous surface, the same tendency to deposition may develope itself. From this cause, patients sometimes die in consumption at an early stage, before there is set up any sufficient disorganisation to destroy life by the arrest of respiration, or by discharge from the lungs. A woman aged 44, two of whose sisters had died phthisical, was under my care in 1850. She had symptoms of tubercle at the apices of both lungs; but there was little cough, and actually no expectoration. Three months before her death, her life was threatened from profuse discharge from the bowels; but, under astringents, this flux was stopped, and no further bowel derangement followed. Soon afterwards, she was seized with violent heats, followed by the most profuse perspirations. The symptoms were almost of the ague type, and were amenable to no treatment. Meanwhile, the disease of the lung remained latent; but the appetite failed, and the tissues melted. Suddenly she commenced to sink, and died with all the signs of obstruction on the right side of the heart. I found, after death, tubercular deposit at the apices of both lungs; and a heart large, soft, and thinned. The right cavities of the organ were literally filled with separated fibrine, the concretion extending into the pulmonary artery; and in the left cavities there was also a deposit, which extended into the aorta. The concretions on both sides had firm hold upon the cardiac wall. The blood was coagulated in the vessels.

The examples in which the fibrine becomes deposited in the heart, from loss of its solvent, are very numerous. We may, indeed, in reference to these cases, lay down a general proposition to this effect—*that whatever cause slowly enfeebles the circulation sufficiently, without producing a fluid condition of blood, leads to a deposit of fibrine.* By virtue of this law, we may have a deposition of fibrine during a prolonged syncope, after injuries which have produced shock, and after the administration of some poisons which slowly paralyse the heart, such as opium.

I am indebted to my friend and colleague, Dr. Cockle, for the history of a case in which concretion on the right side of the heart followed a severe injury. The case has a special value, from the circumstance that the mode of deposition was peculiar, as the sequel will show. A man was crushed by the fall upon him of brickwork. He was conveyed to the Royal Free Hospital, where it was found that there was fracture of the pelvis and thigh. The shock was extreme; but he lived on for four

days, rallying a little, when he was suddenly seized with intolerable dyspnœa, followed by congestion of the lung, and death. At the *post mortem* examination, it was found that a band of concretion (Fig. 7), taking a firm hold on the right auricular

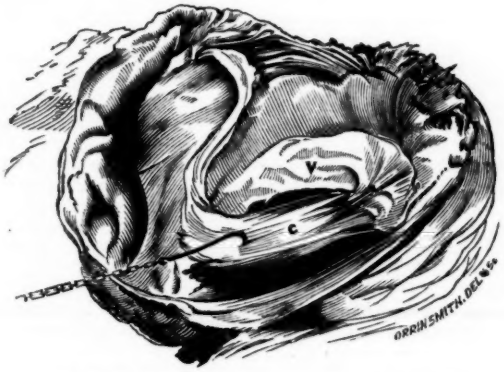

Fig. 7.—V. Portion of Tricuspid Valve. C. Concretion.

wall, passed downwards into the ventricle, where, making a spiral turn around the tendinous cords of the tricuspid valve (Fig. 8), it looped up the curtains of the valves, and entirely

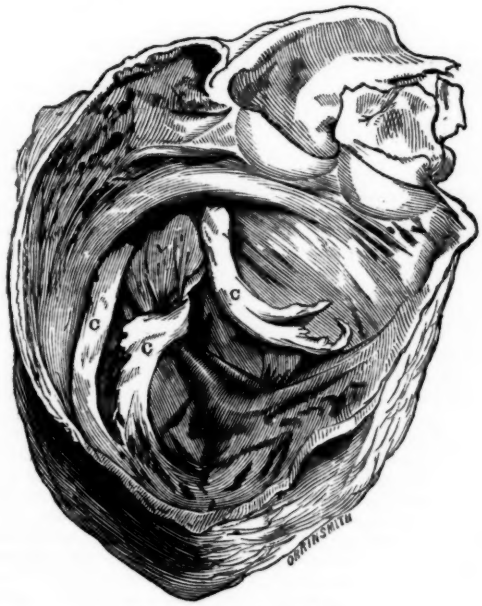

Fig. 8.—C C C. Concretions.

occluded the auriculo-ventricular opening. By the side of this central concretion lay two others beneath the curtains of the valves, and less adherent.

I should but waste time to deliver more examples of this class of cases. Whoever chooses to remember the simple fact that, whenever the circulation is slow and the blood charged with no new solvent, deposition is an imminent occurrence, will understand the signs of concretion whenever they occur, and their origin. If I have to add anything to this observation, it is this—that whatever condition exists favourable to fibrinous separation, such as anæmia, or its opposite where the blood is condensed, in such conditions very trivial depressing influences will turn the scale from imperfect solution of fibrine to absolute separation.

The mention of those conditions of system favourable to deposit from a change in the relative quantities of the blood constituents, leads me naturally to those examples in which there exists what I have designated as *spontaneous separation* of fibrine. We have seen that this state, curiously enough, may exist in diseases approaching to those in which the blood is made permanently fluid. In some forms of low fever, for instance, we have at the earlier stages deposit, and thereupon the exhibition of symptoms which run throughout parallel with those of the typhoid itself. I select an excellent illustration of this form of disease from the *Dublin Hospital Gazette* for December 15th, 1841. The report is by Mr. Rambant; the physician was Dr. Corrigan.

"Matthew Walsh, aged 70, was admitted into the Hardwicke Fever Hospital on November 20th, 1845, fourteen days ill. For the last one or two years, he had been much exposed to cold, and suffered much from poverty. Fourteen days before admission, he was seized with rigors, headache, and vomiting. He became, as he said, worse from day to day, lay in a small close room, and received but little attendance. The symptoms on admission were, shivering and cold extremities; the pulse very weak; the tongue dry, hard, and dark brown; all the secretions and excretions were scanty; the intelligence imperfect. He rested on his back, and made no complaint. The treatment was ether, ammonia, and brandy. On the 21st, 22nd, and 23rd, his sinking continued. He lay in bed on his back, still complaintless, with a pulse hardly perceptible. There was no tympanitis of the abdomen. On the 23rd, the tongue was moist, with slight mucous rattle in the throat. On the 24th, he showed more restlessness, with an inclination to attempt getting out of bed; on which day he died.

"At the *post mortem* examination, the lungs were found healthy in texture, with some effusion (not considerable in quantity) into the bronchi from the lungs, but moderately collapsed. The tissue of the heart was healthy. The left ventricle contained grumous dark coloured blood. On slitting up the right ventricle, the pulmonary artery, and its branches, a singular appearance was presented. A bulbous shaped polypus (concretion) lay in the right ventricle, but was not sufficient to fill it. This polypus, narrowing gradually as it passed into the pulmonary artery, extended along this vessel, being of about the thickness of a quill; then it divided at the bifurcation of the pulmonary artery, and continued its ramifications along the arterial branches. This extensive polypus of fibrine was so firm that, taking it by the root which lay in the right ventricle, it was drawn out, with all its attached branches, unbroken from the pulmonary artery. It was not attached anywhere to the sides of the arteries, but lay like a cord along their centre."

The following observations by Dr. Corrigan, in relation to this case, are, like all observations that have proceeded from his clear and unprejudiced mind, of great practical value.

"Two questions naturally suggest themselves here. 1. Was this polypus only formed in the last dying moments? 2. Had it any effect as a cause of death? As to the first question, I think the structure of the polypus itself shows that it must have been a considerable time in the process of formation, probably for some days. It was very nearly destitute of the colouring matter of the blood, except in the smaller ramifications of it. It was not of great size, such as we generally see in polypi of recent formation in the cavities of the heart, but was firm, comparatively hard, and small compared with the size of the cavities in which it lay. But the most satisfactory proof, probably, of its formation having occupied some time, is to be found in its structure. It consisted of distinct separate layers of fibrine. The outer layer or layers were comparatively soft, and, when laid hold of and pulled on, could be most readily drawn down off the middle fibrinous cord, which constituted the middle of this long-branched, tree-like polypus. This centre fibrinous cord was very firm and pale coloured. Those separate layers into which the polypus easily separated, resembled exactly the separate layers of lymph which are found in successive deposits of lymph in the trachea, in croup. On carefully examining this construction of the polypus, its position in the centre of the vessels, its extent in length, and its small diameter as compared with the size of the ventricle and vessels, it seems quite evident that this singular formation has been the growth of probably some days, and has been either the cause or the consequence of the sinking process of the circulation. But whether the cause or the consequence, it is plain that once formed, even in small extent, it would prove a serious hindrance to the circulation, and would most probably, even necessarily, cause death by its constantly increasing size and proportionately increasing obstruction to the function of the lungs and to the circulation."

Conditions of blood favourable to deposition may occur also in scurvy, and in purpura. I have already stated briefly the history of a case of this latter kind occurring in a child. The body of this child, during life, was covered with purpuric blotches, and such was the tendency to effusion, that even firm pressure on a clear spot of skin would give rise to a temporary blotch. One would hardly have

conceived such a condition favourable to fibrinous deposit; but, after some weeks of great anxiety and languor, death occurred suddenly. And in the heart, in the right auricle, a concretion of fibrine filled the cavity, and sent a long prolongation into the inferior cava. The concretion was laminated, was clearly formed before death, and was the immediate cause of death.

As I have said once before, there may be deposition of fibrine in the heart as the result of paralysis of the circulatory organs by the action of poisons which depress, without adding to the circulating fluid any solvent of fibrine. There is much room for investigation in relation to this subject. In an animal struck down by the respiration of sulphuretted hydrogen, and left afterwards for some hours in pure air, there may be fibrinous separation. In a dog killed by a large dose of morphia, the death being prolonged over twenty hours, I once found also such separation, the concretion being on the right side, and filling the cavity, but being soft, and only slightly adherent. In the human subject, I have had no personal experience as to the production of concretion from the absorption of poisons; but the following case, reported in the *Lancet* for 1837-8, vol. ii, p. 626, by Dr. Frederick Page of Beccles (now of Landport), is of extreme interest, as indicating the possibility of deposition after the administration of *arsenic*. It may be a question truly whether, in this case, the deposit, which was clearly the immediate cause of death, was the result of the arsenic or of preexistent disease, independent of the arsenical dose; but, whether or not, the narrative deserves quotation in full.

"A fine healthy boy, aged 3½ years, swallowed a small piece of bread which was covered with butter, sugar, and arsenious acid (about eight grains), which his mother had just prepared to poison vermin. It appears she had just turned her back to him for a moment, during which time the child ate it. I was immediately summoned to attend, and exhibited an emetic of sulphate of zinc, which produced powerful vomiting; and, in about twenty minutes from the time at which the poison was taken, the stomach appeared to be quite free from the drug. During the following three days, the child appeared to be as well as usual; but, on the morning of the fourth, he was attacked with slight difficulty of breathing, quick pulse, hot skin, loss of appetite, and anxious expression of countenance, without sickness, purging, or any indication of pain. In the evening, he was evidently sinking, and died on the following morning, at about five o'clock, continuing perfectly sensible up to the time of his death.

"On viewing the body, ten hours after death, some few dark spots were visible on the surface. Nothing particular offered itself to notice on examining the stomach and the organs of digestion, with the exception of one or two slight traces of inflammation in the former viscus; the liver was enlarged, hardened, and of a pale yellow colour; the bladder was full, distended; the lungs and cavities of the pleura were healthy; the pericardium was filled with a pale straw-coloured transparent fluid. On dividing the venæ cavæ close to the auricle, a considerable lump of semitransparent, perfectly organised, coagulable lymph, fell from this cavity, in which was discovered much more. On opening the ventricles, large strings of the same substance were found to occupy their cavities, interwoven with the carneæ columnæ, and extending from the left into the aorta, nearly filling up the ventriculo-aortic opening. The walls of the heart were pale, flabby, and soft."

It is probable that, in some forms of poisoning by the mineral acids or by inhalation of chlorine, where life is prolonged for some hours, separation of fibrine might also occur. But these probabilities we must wait to see solved.

Symptoms of Concretions of a Chronic and Anomalous kind. Before leaving the subject of symptoms, I must not forget to mention certain ones of an anomalous character, and sometimes prolonged over a considerable period.

It may happen that, in the course of an acute form of symptoms of concretion, relief may occur suddenly to the labouring heart, with the appearance of obstruction in a remote part of the circulation. It is worth while to recall the fact that Dr. Chisholm, in giving the history of his cases in Granada, speaks of the symptoms showing a tendency to terminate in what, using the language of his time, he calls a "metastasis". One patient was relieved all at once, and without any evident cause; but perceived at the same instant an excruciating pain a little below the elbow, and nearly about the middle of the thigh. He continued free of the symptoms of polypus, but suffered from large abscesses at the points of the extremities where the pain was developed. Through the kindness of my friend Dr. Sibson, I was once enabled to see a case very similar to the one just noted. A man came under Dr. Sibson's care, suffering from terrible embarrassment of the heart. The embarrassment continued for many days, when suddenly it was removed, but was followed at the same instant by numbness and coldness of the left arm, which continued for a week after the event. The man had valvular disease of the heart; but, after this sudden relief, the anxiety about the heart did not return.

These cases are rare; but, as they occur, I must describe them, and their nature. The peculiar modification of symptoms is easily read off. It is due to the sudden dislodgment of a concretion from the left side of the heart with the arterial stream. The symptoms of major obstruction are removed, and new symptoms of minor obstruction are set up. The minor symptoms are recoverable without necessary loss of life or even of limb; for a limb will not die when there is free anastomosis.

There is a second class of cases in which concretion is produced in the heart, and does not at once destroy life, but gives rise *occasionally* to symptoms of the most distressing character, and which, often renewed, are at last fatal. These symptoms are so peculiar in different cases, that it would be difficult to subject them to any given descriptive rule. I shall prefer to illustrate what I know of them from histories of clinical facts. The following case was reported to me by Dr. Sayer.

A widow lady, aged 49, who had borne four children, had been the subject of much grief and anxiety; the extravagant and intemperate conduct of her late husband (who died in 1819) having reduced her from a state of affluence to the verge of indigence. She had suffered for several years from uneasiness about the chest, accompanied with deep and frequent sighing. In March 1825, there was increased uneasiness about the chest, a sense of oppressive weight, frequent deep and prolonged inspirations, a weak, slow, tremulous and unequal pulse, a loaded condition of the superficial veins, a muddy hue of skin, an œdematous state of the feet and ankles, and withal a tendency to somnolency.

At the end of June, she had improved so much, that she was able to leave town by coach, and to repair to the sea-side, whence she returned home, early in August. She was now in that degree of health, to which she had been habituated for the last few years—being able to attend to her household duties, and to the education of her younger children.

At the end of September, she became suddenly afflicted with a return of all the former symptoms; for which little or no relief could be afforded. She died on October 30th, presenting during the last week of life symptoms of hydrothorax, hydrops pericardii, and œdema of the lower extremities, extending from the feet to the upper part of the thigh.

At the *autopsy*, 21 hours after death, the brain was found perfectly healthy. Extensive serous effusion existed in both pleural cavities. The lungs, quite free from adhesions, were engorged with dark blood. The pericardium contained a small quantity of effused fluid. The heart seemed considerably enlarged, and was surrounded at its base by a large quantity of fat. A circular ulcerated spot, covered with a thin layer of purulent matter, and measuring an inch and one-eighth of an inch in diameter, was discovered on the upper surface of the heart immediately beneath the junction of the right auricle and ventricle. Both the cardiac cavities on the right side were thicker and firmer than natural. The cavity of the auricle was enlarged in size, and the musculi pectinati were unusually developed. Within the auricula of this auricle there existed an abnormal formation, a fibrinous concretion, firmly attached to the muscular wall. When pulled with considerable force, it broke off close to the place of attachment, leaving the base behind firmly adherent. The concretion measured two inches in length, and an inch in breadth at the base. It weighed three drachms and five grains (troy weight), and tapered to half an inch in diameter at its extremity, from the anterior edge of which issued an appendix, which measured an inch and a half in length, and terminated abruptly. The walls of the right ventricle were slightly thickened, and the columnæ carneæ, chordæ tendineæ, and tricuspid valves, were increased in size and firmness. In this ventricle, and amongst the columnæ carneæ, near the septum ventriculorum, there was found another similar abnormal formation, extending into the pulmonary artery and over the semilunar valves. The concretion measured eight inches in length, the last two being thread-like or filamentous. The width at the base was an inch. When pulled with much force, it broke off like the

one in the auricle close to the point of adhesion, leaving the base firmly attached. It weighed two drachms and thirty-seven grains (troy). The pulmonary artery and semilunar valves were natural, and so also were the pulmonary veins. The foramen ovale was perfectly closed, but its margin was more distinct than usual. The left auricle was in its normal condition; the left ventricle was thicker in substance than is normal; and the mitral valves, the chordæ tendineæ, and columnæ carneæ, had acquired a corresponding development: this cavity also contained a small free coagulum, in which the separation of fibrine had commenced. The arch of the aorta and the semilunar valves were healthy and sound. The heart weighed one pound, seven ounces, seven drachms, and forty-two grains (troy weight). The abdominal viscera were all normal. The venous system generally was loaded with dark blood.

In the succeeding case, kindly forwarded to me by Mr. Duncan R. McNab of Epping, the symptoms are peculiarly interesting, in that one modification of them—viz., an alleviation dependent on change of position of the body—proved the existence of concretion in a way singularly convincing.

"A labouring man," so Mr. McNab writes to me, "under our care was suddenly seized in the night with a sense of suffocation. After struggling awhile for breath, he partially recovered, and lived on for weeks, but breathing with great difficulty. The only relief he could obtain was by placing himself in one position; viz., by lying with his face downwards, and resting on his elbows. This circumstance was so peculiar to me, that I was induced by it to examine the body after death. I found the lungs milk-white and bloodless. In the right ventricle of the heart was a white tape-like concretion, attached by its base to the anterior wall of the ventricle, and continuing upwards into the pulmonary artery.

"The position of this concretion explains the cause of the relief obtained by the act of lying with the face downwards. For when the patient was reclining on his back, the concretion must have floated across the pulmonary artery, and have checked the current; but when he lay on his face, the concretion would lie flat against the anterior wall, and the passage for the blood would be comparatively easy. I should add, that this man had consulted us about strange sensations in his heart a year or two previously; but his complaints were then regarded by us as due to profuse smoking, and as hypochondriacal in character."

Once more, there are cases where a fibrinous deposit, without causing rapid death, produces much the same class of signs as valvular disease; viz., lividity of the body and œdema. With the existence of this class of cases, and of the cause producing them, the illustrious Morgagni seems to have been well conversant, as the following history by him indicates:—

"A woman, previous to her death, had shown symptoms of universal tumidity of the body, and that livid hue which the skin usually exhibits when a great number of the subjacent veins are turgid with blood. The respiratory movements were performed with difficulty, and the pulse was feeble. The body of this woman was opened by Joseph Stancari, who found the vena cava and emulgent veins dilated, their coats partly cartilaginous, partly bony, and they, as well as the iliac and other veins, nearly filled with a hard polypous concretion."

Another case somewhat analogous to this has been given by Dr. Burrows, in his admirable Croonian Lectures (*Medical Gazette*, August 15, 1835):—"A weak, emaciated, waxy-looking girl, who was under the care of Dr. Bright, suffered from palpitations of the heart. These were followed by œdema of the legs, great pain in them, and extreme enlargement of the superficial veins. In this state she died; the œdema gradually going off, and becoming succeeded by wasting. After death a yellow, laminated coagulum was found to fill the inferior vena cava and the iliac veins, thus fully accounting for the impeded circulation."

But the most remarkable example of this kind is one reported by Dr. Fuller, in the *London Medical Gazette* for the year 1847. I must refer the reader to Dr. Fuller's excellent report and observations for the full particulars of the case. Its leading points are these:—A thin and pallid woman was admitted into St. George's Hospital on June 11th, 1846, under the care of Dr. Page. She was suffering from extreme pain in the right foot and leg, and was passing albuminous urine, but had few constitutional symptoms. On the 22nd, an aggravation of her symptoms took place. The right foot became colder than the left, and assumed a mottled appearance, as if from incipient gangrene; the pain also became more severe, and febrile disturbance showed itself. On the 27th the whole of the right foot was perfectly black, and the leg greatly discoloured up to the knee. On the 28th a patch, of the most vivid red colour, presented itself on the hitherto black foot; and by the 30th almost all the toes on this foot, and the greater part of the foot itself, were of a brilliant scarlet colour, nevertheless, the whole foot remained perfectly cold. The femoral artery could be felt pulsating as usual; but it was hard and tense to the touch, and its contractions were evidently imperfect, as if from the blocking up of the cylinder. The left foot now became painful and gangrenous, while the peculiar redness already alluded to continued to extend up the right foot and leg, until it displaced the blackness, and continued some distance above the knee. On the 5th of July, vesications appeared on the right leg, and the left, which had gone through the same series of changes as the right, was becoming of the same bright red colour. Her back also showed a disposition to slough, and the extremities, from the hips downwards, had become perfectly cold. She continued to get worse until the 12th of July, when she refused food, and, after lying in a comatose condition (from which she could be roused, and was then quite sensible), she sank on the 15th, without any alteration in her symptoms. During the last week of her life, some parts of the legs and feet, which had presented the vivid scarlet appearance, became perfectly black, and emitted an insufferable stench. The autopsy disclosed no peculiar lesion of the lungs, or of the structure of the heart; but the right cavities of the heart contained coagula of a mixed character, some dark, others fibrinous and recently coagulated, and one small one in the auricle, evidently of long standing—it was quite firm, for the greater part discoloured, and, when laid open, its centre was soft and cream-like. In the left ventricle was a coagulum presenting the same characters as the one last described; but it was much larger, and occupied a considerable portion of this cavity, being entangled and firmly fixed in the muscles of the fleshy columns, with which it appeared in some places to be connected by slender adhesions. The liver was healthy; the spleen congested, but otherwise healthy. The intestinal canal and organs of generation presented nothing remarkable. The right kidney, much reduced in size, presented a well-marked specimen of granular degeneration. Its artery and veins were healthy. The vessels of the left kidney were blocked up by firm coagula. The kidney itself, much increased in size, presented a singular appearance; both its structures were for the greater part filled with an extensive deposit of a variegated appearance. The abdominal aorta, immediately after the giving off of the superior mesenteric, and the common internal and external iliac arteries, were all blocked up by firm, light-coloured coagula of long standing, and adhering slightly to the internal coat of these vessels. In some places, the centre of these coagula was softened and cream-like. The internal coat of the arteries was neither thickened nor discoloured. The vena cava inferior, at the entrance of the iliac veins, was also blocked up by similar coagula, which were traced downwards into the various larger branches of these veins; but the upper part of the cava was quite free from coagula.

The muscles of the inferior extremities were discoloured; all the larger arterial trunks which were examined were blocked up by coagula, similar to those observed in the iliacs. The arteries were traced down to the dorsum of the foot; the veins were also blocked up by similar coagula. No diseased appearance could be detected about the coats of any of these vessels. The blood, examined microscopically, showed no unusual appearance.

There are, again, examples in which fibrinous concretions are formed in the heart, exist there for a time, and, without exciting any chronic or paroxysmal symptoms, destroy life at last by a sudden syncope. The old writers were so well conversant with this occurrence, that one of them, Queye, referred specially to it in an essay on syncope (Queye, "De Syncope et causis eam producentibus", Haller, *Disp. Anat.*, vol. vii, Göttingen, 1735); and Cullen favoured the subject with a similar mention. In modern times, we have had clinical histories bearing in the same direction. In cases of the kind in question, the fatal result is usually preceded by some muscular exertion. I will give two examples.

In *Guy's Hospital Reports*, vol. iv, p. 157, Dr. Hughes has given a good illustration of this kind. The patient was a boy eleven years old, under the care of Mr. Aston Key. He died on passing a motion from the bowels. An old fibrinous clot, of the size of a pigeon's egg, blocked up three-fourths of the right auriculo-ventricular opening.

The case of the old lady, whose death was noticed in the first

section of these lectures, and in whom an organised concretion existed in the left heart, is the second case of this kind to which I would refer. This lady had suffered certainly from symptoms which had been referred to the heart, but not of an intensity sufficient, as it seemed, to endanger life. Suddenly, after some trifling exertion, she fell and died almost instantly, the globular concretion being carried by the blood-stream into the aorta, and occluding it as effectually as a tight ligature around the vessel.

Lastly, the deposit of fibrine in the heart, in cases of old standing heart-disease, may give rise to peculiarities of symptom reflecting on those of simple cardiac disorder on the one hand, and on those of concretion on the other. In the instance of a girl who had suffered for some years with hypertrophy of the heart and mitral induration, an acute but slight rheumatic attack led to deposition, and to the most extensive deposition I have perhaps ever witnessed. In the course of this case, about four days before death, the mitral murmur disappeared altogether; the pulse at the same time becoming most irregular, and so quick that it was barely to be counted. Without any marked general indications of obstruction from clot, this patient, while sitting up in bed taking drink, exclaimed "Oh dear, how weak I am!" and died instantly from syncope.

Now, in this case, the disappearance of the mitral murmur was accounted for fully at the *post mortem* examination. It was found that the indurated mitral valve was held back by a fibrinous band; while the absence of the special signs of concretion was accounted for by the great size and dilatation of the left cavity. I was not at the time when this case occurred prepared to account during life for the disappearance of the murmur; but in another similar case, I feel that any such difficulty of diagnosis would be greatly removed. There remains yet much to be done in relation to fibrinous deposition in hearts previously and chronically diseased. I have at this moment no further data on the subject; and with this observation I close the history of the symptoms of concretion.

Pathological Changes incident to Fibrinous Deposition in the Heart. Whenever there is deposition of fibrine in the heart, leading to symptoms of obstruction and death, there are produced in other parts certain changes which, though not necessarily organic, are deserving of consideration.

The condition of the *lungs* first calls for attention. The lungs are always changed; but the change varies from two of the widest extremes—*i. e.*, from the extreme of bloodlessness to the extreme of congestion. These distinctions depend upon the position and size of the obstructing body. When the concretion is on the right side, and is of such size and in such position as to check the circulation to the lungs effectually, the state of the lungs is then very uniformly the same. The organs are inflated, blanched almost to pure whiteness, and bloodless. In some instances, to these signs emphysema is added: then the pleural membrane is seen elevated in bead-like rows over a considerable tract of the external surface. In children dying of acute hyperinosis, this emphysematous condition is, according to my experience, always present, and, as a general rule, present in the most marked degree. If the concretion, still supposing it to be on the right side, be so small or so placed that it will allow a current of blood to pass to the lungs, the normal force of the current being nevertheless considerably reduced, then the lungs, instead of being blanched, are congested throughout, and even condensed in depending parts.

When the deposition is on the left side of the heart, whether it obstruct much or little, and whether death be sudden or prolonged, the lungs are always congested. But, in prolonged cases, there is often more than congestion; there is effusion, œdema, sometimes exudation of blood itself, profuse secretion into the bronchial passages, and condensation of structure in depending parts amounting to hepatisation.

The *pleural cavities*, in all forms of deposition, sometimes contain serum of a pale straw colour, which varies in amount, but does not extend to a sufficient amount to cause compression of the lung-structure. In one example, I observed that serum exuded into the pleural cavity coagulated on exposure to the air, a little fibrine having been thrown out with the serous fluid.

The *pericardium* usually contains serum in excess; but, again, not in sufficient excess to stop by its pressure the action of the heart. When this fluid is cleared away, one is often struck, especially in examining the bodies of children who have died of concretion laid down in the right auricle, with the peculiar appearance of the heart: the auricle, from distension, is as large, or is even of larger size than the ventricle; the veins of the heart superficially are distended almost to rupture; and the whole appearance of the organ indicates the intensest congestion.

The condition of the *large veins*, and of the parts below the heart, the *liver*, *kidneys*, and *spleen*, in cases where the concretion is on the right side of the heart, is one also of extreme congestion. In chronic cases, such as those related in a previous page, where the obstruction extends over weeks or months, there may be œdema of the lower parts of the body, or even effusion of fluid into the peritoneum. In a case seen by Mr. McNab, in which a child died with the signs of concretion on the right side, and in which the *post mortem* examination showed a firm concretion in the right auricle, with pathological appearances in the lungs such as have been so often mentioned —viz., bloodlessness and whiteness of texture—there was found intussusception in five portions of the small intestine, in one portion to the extent of three inches. Mr. McNab suggests that this intussusception may have been due to spasm arising from the deficiency of arterial blood in the intestine—a very probable hypothesis. The symptoms of concretion in this infant were observed first on Monday; its mouth then felt cold to the nipple of its mother; and it continued cold and apparently insensible to everything till Wednesday, when death occurred. I have not in my dissections met with any such condition as is here described in cases of death from fibrinous deposition.

The concretion being on the left side of the heart, the congestion of the abdominal veins and organs is less determinate; for in fact the lungs receive a large supply of blood, and the congestion is shared by the two circulations, pulmonary and systemic. In very prolonged cases, nevertheless, the œdema and other indications of central obstruction may have an extensive manifestation in the parts below the heart.

The brain is always congested when there is concretion on the right side, and this congestion may extend to effusion beneath the arachnoid or into the ventricles; but again the fluid effused is always small in quantity. Not unfrequently the sinuses of the brain will be found containing separate tubular deposits of fibrine. When the concretion is on the left side, the brain is also congested, as a general rule, but to a less extent.

It must always be a matter of care, in summing up the pathological appearances incident to concretion, not to confound these with conditions pertaining to other coincident forms of disease, nor to mistake secondary for the primary causes of the changes of structure which are presented by the scalpel. In the brief history I have given, I have kept this caution in view, and have intentionally reduced the description to the narrowest bounds, that there may be no chance of stepping beyond the simple and the true.

Original Communications.

EXPERIMENTAL EPICRISIS OF SOME LATE RESEARCHES ON LIVER-SUGAR.

By J. L. W. Thudichum, M.D.

The discussion which has lately taken place at the Royal Society, of a paper by Dr. Harley, in which the views advanced some time ago by Dr. Pavy, and noticed at length in this Journal, relative to the glycogenic function of the liver, are controverted, recalls to my memory some experiments which I made in the early months of 1859, with a view of testing the correctness of Dr. Pavy's chemical proceedings and physiological conclusions. The result of these experiments is adverse to the opinion of Dr. Pavy, and in accordance with that of Dr. Harley, and consequently confirmatory of the doctrine of the glycogenic function of the liver, as generally admitted before the publication of Dr. Pavy's paper. My experiments have, moreover, afforded me an opportunity of ascertaining the sources of fallacy in at least two of Dr. Pavy's modes of proceeding, and have taught me the conditions under which opposite results may be obtained by the same experiment with the same proceeding—a fact which (as I am informed) was left unexplained by the late discussion.

A dog of fifteen pounds weight, which had for several days been fed upon tripe exclusively, was narcotised with puff-ball, and deprived of a small piece of his liver. This, without loss of time, was pounded with an equal amount of caustic potassa, without the addition of water; and the pale reddish magma was filtered through asbestos. The first filtrate, brought into

an alkaline solution of copper, gave an abundant red precipitate of suboxide of copper, evidencing the presence of sugar. Every drop of the filtrate which passed during the next hour yielded the reaction. After that, the filtrates ceased to show sugar. The mixture on the funnel had been mixed with water and stirred, and had assumed a dark red colour, having been of a pale flesh-colour before.

A second piece of the same liver was exposed to the air for fifteen minutes, and then treated like the first. It exhibited the presence of sugar for one hour, after which the reaction ceased.

The rest of the liver was placed in water boiling in a copper pan. The extract afterwards yielded sugar and glycogenic substance. No leucine was present in this extract.

In the second experiment, a dog of twenty-one pounds weight was narcotised by a blow on the head. One entire lobe of the liver was quickly pounded with potassa; and, after incorporation of the two substances, some water was added to the thick magma. It was observed during the pounding and trituration, as well as during the admixture of the water, that the temperature of the mixture rose so considerably that the hand, which was placed to the outside of the thick Wedgewood mortar, felt it to be quite warm. The filtration of this mixture was difficult, owing to the asbestos being too fine. The first clear filtrate was only obtained after half an hour had elapsed, and contained no sugar.

To one ounce of the mixture, ten grains of pure grape-sugar were now added. The filtrate, after twenty-four hours, did not at first give any reaction with copper solution; indeed, none at all could be perceived in a test-tube. Only after prolonged standing of the test in a china dish, the merest trace of red deposit could be distinguished in the bottom of the dish after the fluid had been cautiously decanted. The ten grains of sugar had so effectually been destroyed in the mixture, that certainly not one-thousandth part of them was left over.

The rest of the liver contained little glycogenic substance, but no leucine.

The third experiment was made upon a dog fifteen pounds in weight. The abdomen was opened while the animal was under the influence of puff-ball. The mixture of liver and potash became again very warm, was mixed with water, and quickly filtered through cotton by the help of air-pressure, upon the principle of Beart's coffee-machine. The filtrate showed no reaction for sugar, but assumed a violet colour.

The first experiment showed me that, when a liver containing sugar is treated with caustic potassa, under circumstances preventing any rise of the temperature of the mixture, the sugar, under the influence of caustic potassa and the oxygen of the air and water, is rapidly destroyed.

The second experiment showed that the destruction of sugar, under circumstances favouring a rise of the temperature, is more rapid still; the presence of sugar being, of course, assumed or allowed. It also showed the rapid destruction of sugar, under the influence of potassa and air, at the ordinary temperature.

The third experiment exhibited the influence of a raised temperature alone in destroying (hypothetical) sugar mixed with caustic potassa. So short a time was passed in the experiment, that, even allowing some influence to the oxygen dissolved in the water, the influence of the oxygen of the air, though not excluded altogether, must have been limited.

No doubt, in the second and third experiment, the proof of sugar having been originally present in the liver is wanting. But the first experiment made me so well acquainted with all the conditions which are essential for finding or missing any sugar in the liver, by employing potassa as a reagent, that I was quite satisfied of the correctness of the conclusion, which caused me at once to give up all further experiments on this subject as lost labour; namely, *that no experiment can be admitted as proving the absence of sugar from the liver, in which the contact of that organ with potash, air, and water, at the ordinary or any higher temperature, has not been avoided.*

The behaviour of grape-sugar with almost any alkali will for itself substantiate that proposition. A solution of caustic baryta and grape-sugar, on standing, is gradually transformed entirely into one of glucate of baryta. A mixture of caustic potassa and grape-sugar, when only heated to 60° or 70° centigrade (140° or 158° Fahrenheit), becomes brown, and smells of caramel; and the sugar is entirely transformed into glucic and melassic acids. Grape-sugar fused in the water-bath reacts so violently with solution of caustic potassa, that frequently a portion of the mixture is projected out of the vessel employed for the test. Caustic alkali, then, of itself, without the interference of oxygen, is most hostile to grape-sugar, and appropriates and transforms it with increasing violence, the higher the temperature under which they meet.

A mixture of grape-sugar and caustic potassa is very liable to be attacked by the oxygen of the air, directly and indirectly. Such a mixture, when exposed over-night, loses from 30 to 40 per cent. of its sugar, as was proved by Traube, in some experiments made for another purpose. But when to the mixture is added a body having more direct affinity to the oxygen of the air than sugar, but less when that oxygen is once in a bound condition, and therefore easily parting with it, then the oxidising action of the air becomes most fatal to sugar. Such a body is indigo, which at the same time admits of making the experiment visible. It rapidly yields oxygen when dissolved in the alkaline mixture, and is reduced, becoming colourless; but the air restores oxygen and colour to the surface, which again passes it to the sugar below. Not until the whole of the sugar is oxidised, does the fluid resume its blue colour. The indigo here acts as a mediator between the oxygen of the air and the sugar, by transferring it from one to the other. A precisely similar agent of transfer is the red colouring matter of the blood contained in the liver. When mixed with the alkali, it becomes pale, is reduced; something (sugar, when present, at all events) is at the same time oxidised. The addition of water containing oxygen, the contact of the air itself, restores the dark red colour, immediately to be lost again in the lower strata of the fluid. Ultimately the fluid remains dark; all oxidisable matter is destroyed. The sugar of the liver is not only destroyed by the direct agency of air and caustic potassa, but also by the oxygen, which the red colouring matter of the blood has a remarkable power of binding and transferring.

When I applied these considerations to the experiment of Dr. Pavy, in which he injects a solution of caustic potash (in water, not stated to have before been freed of oxygen) into the liver of animals (showing the temperature of 37° centigrade, or 99° Fahr., and being saturated with oxygen or filled with blood containing it in a loosely combined state), I was forced to the conclusion, that any sugar which might be present, would assuredly be oxydised and destroyed at once. The hurry with which Dr. Pavy found himself obliged to operate, to avoid finding any sugar, has its ready explanation in the rapid decrease of the temperature which the liver does experience when the abdomen is opened. The higher the temperature at which sugar, potash, and oxygen meet, the more rapid and complete is the destruction of sugar; if the liver is allowed to get a little cool before injecting the potash, sugar is found, because it has not all been destroyed.

The facility with which sugar in alkaline solutions attracts oxygen from the oxydes of metals, points the same way. The reaction with copper has become *the* test for grape-sugar. Acetate of copper, peroxyde of lead, nitrate of suboxyde of mercury, corrosive sublimate, nitrate of silver, chloride of gold, trisnitrate of bismuth—surrender a portion or the whole of their oxygen to grape-sugar in alkaline, neutral, or even acid solutions. The avidity of grape-sugar for oxygen, under a great variety of circumstances, is really astounding.

The potash-test having been the basis of Dr. Pavy's conclusions, and being now proved to be fallacious, the conclusions themselves, in so far as they are derived from the analysis with potash, are not any longer valid. The reverse of Dr. Pavy's results has moreover been obtained by means of my own; and now by the much more extensive experiments of Dr. Harley, made with Dr. Pavy's own methods. The experiments in which freezing and citric acid are employed respectively, I have not repeated. But this I have experienced in some preliminary tests, that alkaline citrates have so strong an affinity for the oxygen of the air, that red suboxyde of copper, lying at the bottom of a test-tube half filled with alkaline citrate, after exposure to the air for some days, becomes oxydised again, and dissolves with a blue colour in the previously colourless fluid.

I must confess that I am unable to comprehend the meaning of the freezing experiment; but, leaving aside speculation, there is in Dr. Pavy's proceedings following the freezing much reason for distrusting that experiment also. He met with great difficulty in filtering his alkaline solutions of liver, and therefore neutralised them with sulphuric acid before filtration, filtered them by squeezing through flannel, and then again made them alkaline. The mixture thereby not only became enormously bulky, but was for a length of time exposed to the air under a variety of circumstances; Dr. Pavy apparently taking it for granted that, when liver and potassa were once incorporated, the rest of the operation could be completed at leisure, as sugar would not any onger be formed. But, in

absence of the guarantee that none would be destroyed, and in presence of evidence that much is actually destroyed under those conditions, his very security makes it doubtful whether he employed even that moderate speed which his method permitted.

For the repetition of Dr. Pavy's, or other similar experiments, I can recommend a small Beart's coffee machine, and the cotton filters sold with the machine, as the speediest and best contrivance for effecting quick filtration.

As the result of many experiments, Dr. Pavy found that there was no sugar present in the liver; but, on the other hand, he gives as the result of sixty observations, that sugar is only found to the extent of the merest trace in the blood of the right side of the heart, under a natural or ordinary condition, during life. Even this result, although of a positive nature, and speaking against his conclusions relative to the liver, is not without objections, based upon the mode of analysis employed. He defibrinated the blood, probably by stirring, treated it with spirit, and pressed through flannel. The residue of the evaporation was tested with Barreswil's solution. Blood to be analysed for sugar, in order to find a maximum, must be analysed much as for urea; it must be allowed to flow directly into absolute alcohol, and afterwards the additional precaution must be taken of removing its alkalinity when the filtrate concentrates on the water-bath, otherwise much sugar is necessarily destroyed.

I had formed the above positive opinions and conclusions on Dr. Pavy's experiments many months ago, as many friends can testify, who were either present at one or the other of the experiments, or were in conversation informed of my conclusions. For this reason, my results and reflections, which were obtained quite independently, may be considered a strong confirmation of some of the propositions of Dr. Harley, as contained in the published abstract of his paper.

ON YELLOW FEVER.

By George Browning, M.D.

[*Read before the Harveian Society, February 16th*, 1860.]

The importance of the subject which I have selected for this paper will at once be conceded, occupying as it does a foremost rank in the catalogue of epidemic diseases, whether we consider the various countries in which it is most prominent, or the havoc and death which have prevailed, and which still prevail, in those subject to its fearful visitations.

The subject of epidemic diseases generally seems scarcely to have claimed from individuals or from governments that high consideration which their importance demands; for, although "they are portentious things unto the climate that they point upon", they may sometimes render "fearful objects so familiar" that we seem not to feel the danger, in the general distress by which we are surrounded.

There doubtless is, in epidemic seasons, a little more activity in the general pulse. Authorities meet and discuss quarantine and other grave questions. The subject of free ventilation may be agitated; the importance of large supplies of pure water may be admitted; dust-carts and scavengers may be called so early into requisition, that the potent rays of the sun may not yet have disengaged any noxious odour; drains and cesspools are forthwith to be only imaginary nuisances; and a ruthless enemy is so assailed in every quarter, that we might fancy a hasty retreat being beaten to some mountain height.

In like manner is the public mind aroused to sympathy at intervals by some melancholy and startling announcement; as when the steamboat boilers explode, and instantly human fragments, even by dozens, are scattered in the air, and death in terrible form meets the eye; or as when a ship founders, or is wrecked at sea, and hundreds perhaps are doomed to measure the interval between dismay and dread reality by minutes or hours.

Social reforms are yearly agitated, and glaring evils boldly exposed; whilst there is too much reason to believe that in each case, after a little time, we become apathetic. The thousands who have been swept off by an epidemic rest quietly in their graves, and occupy a page in Death's statistics. Accidents by sea and land may have the doubtful light of executive investigation thrown upon them; and many of the social evils may be reproduced another year, to undergo the national purification of a vaunted reform!

As early as the days of Sydenham, down to those of modern writers, different forms of epidemic diseases have been attributed to what has been designated an epidemic or pestilential constitution of the air, to which may be added a certain susceptible state of the body; but, as yet, little seems to be definitely known of this peculiarity, which in a great measure is capable of causing epidemic diseases. Speculation, whilst it might attempt to remove the veil and solve the mystery, would still leave us in the suspension of doubt and the mist of uncertainty. We know, however, that one effect is to produce malignant fever, in one or other of its varieties; and upon that called the yellow fever I now purpose to make a few general remarks.

This fever is generally met with in low and level localities. Some parts of the West Indies, and certain parts of North and South America, present all the natural and geographical advantages necessary for the origin and spread of this disease. Sometimes it stretches across the Atlantic, and rages in Cadiz, Seville, Barcelona, and Gibraltar; having visited Lisbon and Leghorn, spreading extensively in this last city, in 1804.

The more elevated parts of the West India Islands are exempt from this disease. Thus, some towns in Jamaica, at an elevation of 2,000 feet, are healthy, as well as the higher parts of St. Domingo. Major Tullock reports that, at an elevation of between 600 and 700 feet, at Dominica, he could not secure a healthy position; whilst, at an elevation of from 2,000 to 2,500 feet, his men were likely to be wholly exempt from this disease, or to encounter it in so very modified a form that the mortality from all causes will not, in the average of a series of years, materially exceed that to which an equal number of European troops would be subject in their native country.

Humboldt, again, has assigned in Mexico an elevation of more than 3,000 feet for the required exemption. Until recently, the river Amazon formed its boundary south of the equator. Within the last few years, it has prevailed at Rio Janeiro, Pernambuco, and other contiguous cities. It has rarely invaded the Pacific coast, and on these occasions it has only visited Panama and Callao. Of late years, the cities in the northern portion of the United States (if we except Philadelphia in 1853) have been almost exempt from yellow fever; whilst some of the cities and surrounding country, in some of the southern States, have yearly visitations.

Unlike cholera, small-pox, and other epidemic diseases, the yellow fever has geographical limits, beyond which it does not appear, and only at intervals at some of the places within these limits. In the West Indies, and in some parts of North and South America, it has its most permanent abode. Thus we find that it extends about 44 degrees north and 23 degrees south of the equator, and from about the 60th to 97th degrees of west longitude, exclusively of those points in Europe where it occasionally prevails, embracing altogether a large portion of the earth's surface.

Not to attempt any historical review of the date and order in which yellow fever has prevailed in different parts of the world, I may observe that, so far back as 1692, the fever was imported into Boston from the West Indies; and in 1699, it appeared in Charleston, South Carolina, and in Philadelphia, it being only a few years after the settlement of the last named city, and the population numbering at this time only a few hundred souls.

Having glanced at the topography of the disease, I may pass on to the predisposing and exciting causes, some of the peculiarities of the mode of invasion, its symptoms, and termination.

Long continued heat and drought are atmospheric conditions favourable to the origin and spread of yellow fever; although, in some of the epidemics in British Guiana and some parts of the West Indies, these auxiliaries are not always found to exert an influence on its development. Thus, observes the late Dr. Blair of Demarara, the year 1853, during which the very beds of the navigable canals were deeply cracked from drought, was not followed or accompanied by any invasion; and the epidemic was long on the decline before the dry season of 1845 and 1846. It is also remarked by another writer, referring to the West Indies, that, in the majority of instances, the most severe attacks of the disease have occurred in the cold season, and not unfrequently when the weather has been peculiarly agreeable as regards sensation, and, it might be supposed, not unfavourable to health. These conditions do not apply to the localities generally where I have witnessed the origin and spread of the disease, although I have known them to obtain after it has become epidemic.

Predisposing Causes. An important predisposing cause, not to be lost sight of in this enumeration, is the constitutional condition induced by previous residence in high latitudes and cold climates. Thus the percentage of mortality gradually de-

creases from a fresh importation of Russians into what has been called the Yellow Fever Zone, down to the Italians, who, like the Creoles of the West Indies and the southern states of America, feel less sensibly the enervating influence of high temperature and the scorching rays of the unobscured sun.

This circumstance should demand seriously the attention of the government in sending troops to the West Indies. Regiments fresh from India or Gibraltar are less likely to suffer from an outbreak of yellow fever, than those transferred immediately from the United Kingdom. In illustration of this assertion, may be cited the great mortality of the 15th foot in about three weeks, shortly after landing in Barbadoes, in 1805, as compared with the 66th, of recent date, which last regiment had only arrived on the same island a few weeks previously from Malta.

Under the impression that total seclusion from the outer world would secure exemption from an attack, I have been informed of those who, acting under the influence of an affrighted imagination, have sedulously confined their movements within the limits of their own houses, with no other effect than to find that they had been assailed by the malady in no mitigated form, and had become the victims of their own fears at the same time.

Intemperance and great exposure may be regarded as predisposing causes; but total abstinence from spirituous drinks has been found no protection. An observation from Dr. Blair on the point may be somewhat startling. "In fact," this writer says, "delirium tremens was not an unfavourable complication of the disease." Such an opinion must be received with caution; besides, it loses much of its significance, if not of its accuracy, when it is borne in mind that a large number in their field of observation have failed to discover even negative good resulting from the complication of delirium tremens with yellow fever.

Period of Incubation and Invasion. The period of incubation and the mode of invasion are subject to very considerable variation; some systems throwing off the secret agency that is at work for a long time, whilst others quickly succumb to its influence.

Sometimes the invasion commences with general *malaise*, lasting for several days; and again, an attack is ushered in by flushings and chills for twelve, or a greater number of hours, to be immediately succeeded by the hot stage. In the early hours of the night the onset is most frequent; and next in frequency from six to eight in the morning. I have observed that the morning hours are particularly applicable to sailors and officers of ships, who remain on board during the time their ships are in port. Driven from their berths by the combined effects of heat and mosquitoes, they seek questionable security and rest upon deck, to discover in a few hours that it has been purchased at the expense of a burning skin, a heavy, yellow, and injected eye—perhaps yellowness also of the skin, severe supraorbital and general muscular pain, with an expression of countenance that is distinctive. In truth, we have a case, taken in connexion with the place, regarding which, in answer to the first and earnest inquiry of friends or relatives, "What fever is it?" we cannot give even the advantage of significant doubt. It is the yellow fever.

Again, the mode of attack is frequently remarkable for its abruptness; persons being seized without warning, whilst pursuing their ordinary avocations, with languor, prostration of strength, severe pain in the head and muscles of the back and thighs. Sometimes, so sudden is the attack, that persons are stricken down in the streets, surviving only a few hours, death taking place by coma. It is most probable that, in cases having a fatal termination so rapidly, there are complications of disease; as I believe they occur mostly in persons who are exposed to the influence of the sun. In the generality of cases, however, the fever is ushered in by a slight chill and shivering, to be quickly followed by the severe pains and heat above indicated.

In opposition to Dr. Rochoux, but in accordance with the more general, and perhaps more authoritative, opinion upon the subject, I shall assume that yellow fever is the same in its pathology and pathognomonic features, in whatever country it may appear, whether sporadically or epidemically; being subject to the same variation in intensity that obtains in other epidemic diseases, even in the same locality in different seasons, resulting from a greater or less concentration of the morbific agent; which is again modified by temperature, humidity, and other surrounding phenomena essential to its existence. Of the various divisions of the stages of this fever by different authors, none perhaps can be found more correct than that of Dr. La Roche of Philadelphia, who divides it into three stages:—1. Reaction; 2. Calm emission; and 3. Exhaustion.

The febrile stage varies from a few hours to two or three days, sometimes longer; and this, a single paroxysm, which is one of its marked features, is succeeded by one of repose, during which both patient and medical attendant indulge the idea that danger is well nigh past, and recovery beams brightly in the not far distant future. True, these expectations are not unfrequently realised, and a rapid convalescence ensues; whilst, in very many cases, it proves a treacherous delusion. Ejection of black vomit commences from the stomach, and frequently continues at intervals, until failing strength announces speedy dissolution on the sixth or seventh day.

The yellow or orange colour of the skin is a sign of the intensity of the disease, gradually extending from the eyes to the forehead, face, chest, and neck, until at last it becomes diffused over the whole surface of the body.

The sensation imparted to the touch is often exceedingly pungent and disagreeable. A thermometer placed in the armpit and on the chest sometimes rises to 108° and 105° respectively.

Pulse. The regularity of the pulse is a marked feature of the disease; the different stages being passed through frequently without any very great variation from the normal standard. It is highest in the first stage, especially if accompanied with any inflammatory signs; and uniformly slow during the convalescence. In some cases, the pulse is so slow that the poison seems to act as a sedative upon the heart's action.

Hæmorrhages. The great tendency to hæmorrhage is another distinguishing feature of this disease, depending, we may presume, upon an alteration in the blood, involving modifications in the capillary vessels. This tendency is also frequently exhibited after death; thus, blood continues to be discharged from the mouth, bowels, uterus, and gums. Although we meet with an oozing of blood in the early, it generally occurs in the later stages of the disease, and can then only be regarded as of grave import. Often preceding the discharge of real black vomit, and accompanied with this, are usually found dryness of the tongue and great thirst. The peculiar odour of the skin has been likened to that arising from fetid bile or putrid fish; but this, as well as the odour pertaining to black vomit, is not easily described, but which freely to have inhaled, is not to be forgotten.

Black Vomit. Some of the circumstances attending the discharge of black vomit are often very remarkable.

Dr. Belot, whose private and hospital practice at Havana was very ample, says that, while the brownish matter containing flocculi is invariably an indication of mortal issue, the chocolate coloured matter, which also passes under the name of black vomit, is not necessarily so. The adoption of this, like most unqualified opinions, it is believed, would lead to error; although objections to this doctrine, to be strictly valid, must be based upon a series of observations upon that *shade* of black vomit which Dr. Belot has indicated, a point upon which I have no remark to make.

In the severe epidemic in New Orleans of 1853, many cases of recovery from black vomit occurred; indeed, such is the case in every epidemic. The house surgeon of the Charity Hospital, in the year which I have just named, stated that seven per cent. of such cases recovered in that institution—a larger estimate, perhaps, than is usually made. In the Maison de Santé, a private hospital, there were 338 cases of black vomit, and fifteen recoveries; and amongst the numerous cases in private practice, a recovery after black vomit occasionally came under my own, as well as under the observation of other practitioners.

It must, however, be borne in mind, that recovery from black vomit in this season was larger than usual. The time of its continuance varies from a few hours to a day or two, exceptional cases longer. Dr. Dickson, formerly of Charleston, has recorded a single case that extended over a period of ten days before its fatal termination. The same writer says: I saw a patient in our Marine Hospital, in 1817, walking from ward to ward with a vessel under his arm, to receive the black vomit which he threw up from time to time. He continued this practice for ten days, until within fifteen minutes of his death, which took place suddenly and unexpectedly to the poor fellow; he had always expressed the most cheerful and confident expectation of his recovery, notwithstanding this usually dreaded symptom. A person went to the residence of a physician in New Orleans, saying that he had been persuaded to take advice, although he himself believed there was no neces-

sity for such a step. Whilst conversing, he asked for a basin, and threw up a large quantity of black vomit. These are what are termed walking cases; where, in the words of our great dramatist, it may be said: "The life of all his blood is touched corruptibly, and his pure brain (which some suppose the soul's frail dwelling-house) doth by the idle comments that it makes foretell the ending of mortality." And this (the mortality of yellow fever), to which I must now allude, is one of its least inviting aspects.

The enormous percentage of mortality consequent upon a severe epidemic; the sundering of domestic ties; the desolation of happy homes, where, in highways and byeways of terribly doomed cities, each may say to the other: "Friend after friend departs; who has not lost a friend?" The distress and misery it involves upon those to whom Providence has not been too lavish in her bounties; the interruption of commercial intercourse; the derangement or suspension of important enterprises, and the consequent sacrifices and losses which such interruption involves—these might well stimulate the best qualified to hearty investigation.

Mortality. The percentage of mortality differs widely in different localities, and in the same locality in different seasons, always of course being greater in hospital than in private practice. To give statistical tables would be to enter too minutely into detail; and, to select certain seasons and places, would be but an approximation to accuracy. I may state, however, that the mortality seems to be slightly greater in European cities, when visited by an epidemic, than it is in tropical climates. The range is in Europe from 1 in 1·1 to 1 in 9·6; in tropical climates, from 1 in 1·1 to 1 in 8; whilst in the United States the range is from 1 in 1 to 1 in 10: the extremes being taken in each instance.

Post Mortem Appearances. In nearly all the fatal cases there is a yellow suffusion of the eye. The stomach frequently contains black vomit, and is congested. The same fluid is also met with in the intestines. The liver is frequently gorged with bile, enlarged and friable; its external colour being deep or pale yellow. The kidneys are often congested.

Treatment. It will naturally occur to every one, that in a disease of this character various modes of treatment should have been adopted; some, perhaps, having been introduced by caprice, and sustained for a time by fashion.

Enormous depletion has had its advocates; and, in the absence of all depletion, fancied safety has been sought: whilst others, again, upon more rational grounds, have found efficacy in the moderate abstraction of blood by cups or leeches in a certain class of cases. By the lancet, seventy or more ounces were taken by Dr. Barton of New Orleans at one time in 1833; and in twelve or eighteen hours after, from ten to twenty more, when the disease was of an inflammatory character. Such practice at the present day would find few, if any, supporters; a careful husbanding of vitality being expedient for a favourable result. When, however, the face is much suffused, the eye injected, and the frontal headache severe and persistent, the abstraction of from six to twelve ounces of blood from the back of the neck, affords relief. Great irritability of the stomach and tenderness of the epigastrium may also be frequently relieved by a few leeches or cups; sometimes by the application of dry cups alone. Depletion is admissible only in the first stage of the disease.

Pediluvia and sinapisms (domestic remedies very generally resorted to before the arrival of the medical attendant), and blisters, are of much value; and morphia or the liquor opii sedativus, cautiously administered, are useful in allaying restlessness, inability to sleep, and the jactitation, sighing, and distress, which frequently supervene upon the fever. Lumps of ice, too, are found salutary as well as agreeable. I single out two articles which have been more extensively used than all others; and too often, it may be feared, with so reckless a profusion, that if the fever were cured, the patient has not long survived the remedy. I refer to quinine and calomel. I may state that these, in moderate doses, frequently act as resolvents of the fever. The effect of large doses of quinine—say from twenty to thirty or more grains—has not, I believe, at any rate, in the more recent epidemics, met with such general favour amongst the profession, nor has its use been attended with such beneficial results, as were once accorded to it. Smaller doses—from ten to fifteen grains, with or without from five to ten grains of calomel—will better fulfil the indications. Overmedication should be strictly avoided, and careful nursing rigidly enforced.

In the later stages of the disease, when stimulants are often required, Rhenish wines or champagne may be classed amongst the best, as well as the most agreeable. This, however, it may be observed, is directly opposed to the opinion and practice of Dr. Blair, who very generally prescribed twenty-four grains of quinine and twenty of calomel, to be repeated two or three times, at intervals of six hours, as occasion might require. Dr. Blair says that, in thirteen years, he prescribed quinine to the extent of several thousands of ounces, without danger from its effects.

The sedative effect of frequent sponging with cold water or lemon-juice, when the skin is hot and dry, produces a sensation of comfort, allays irritability, tranquilises vascular action, and reduces the heat of the body. Sometimes tepid sponging better answers the requirements of the case.

I have now endeavoured to point out as concisely as possible some of the leading features and peculiarities which belong to yellow fever. To contrast these with other types of fever; to introduce the subject of contagion, the tendency to relapse, the infrequency of second attacks, with many other relevant points connected with so comprehensive a disease,—would be to exceed the prescribed limits of this paper, and to overtax your patience. If I have succeeded, so far as I have entered upon the subject, in indicating some of the characteristics which pertain to this fever; if its mode of invasion, its assigned geographical limits, its single paroxysm, its tendency to hæmorrhage, its uniformity of pulse, are such as do not mark the origin and progress of any other fever,—I shall then have expressed an opinion in accordance with those who assign to it a distinctive character—who believe it to be a disease *sui generis*.

10, St. Stephen's Crescent, Westbourne Park, W.

LETTERS AND COMMUNICATIONS.

Letters or communications for the JOURNAL should be addressed to Dr. WYNTER, Coleherne Court, Old Brompton, S.W.

Letters regarding the business department of the JOURNAL, and corrected proofs, should be sent to 37, Great Queen Street, Lincoln's Inn Fields, W.C.

British Medical Journal.

SATURDAY, MARCH 17TH, 1860.

MEDICAL REPRESENTATIVES IN PARLIAMENT.

THE new Reform Bill is brought in, and the so-called Fancy Franchises are thrown over by Lord John Russell. The resolution of the College of Physicians to apply to his Lordship for a representative for their body will, therefore, fall upon unwilling ears. We cannot help thinking that we have ourselves to blame chiefly for this miscarriage. Medicine, as a profession, has made no sign of her desire to be represented in the councils of the nation. As individuals, we all of us deplore the want of medical men in Parliament, to attend to the great questions of public hygiene which are constantly arising and passing under discussion, and then collapsing or coming to nought, simply through the ignorance of members of the vast bearing which medical and sanitary questions have upon public affairs. If we only look back for half a dozen years, we find the annals of Parliament strewed with the minutes of legislative acts relating to our profession, simply through the want of knowledge of the men who carried them. How many abortive attempts have been made to pass a Vaccination Bill? and how many more failures may we expect before we have a perfect measure? When shall we have a working bill on the question of Poisoning? How many more Commissions of Inquiry shall we have with respect to Lunacy? Will the botching given to the Medical Act last out the present year, or shall

we have a third amended Act next session? Who is there in the House to take any care of the medical bearing of the Coroners' Bill at present before the House—a most important question, in which the lives of thousands of new-born children are deeply concerned? It is admitted that disease kills an infinitely greater number of our soldiers and sailors than the battle-stroke; yet, who is there in Parliament who feels any desire to stand up for our brave fellows' lives, sacrificed by red-tape and "old fogyism" in that very House?

We maintain, with Mr. Martin, that, if we are to hold India, it must be by providing hill stations for our European troops in that country, and thereby reducing the frightful mortality at present, and for all past time, going on there among them in the plains. Yet, what voice have we in Parliament to proclaim this great truth? And the whole subject of public hygiene, what utterance can it make in the great Council of the State?

We have said enough to prove that neither civil nor military life can go on for a moment without raising the most important questions, which the medical man only can answer. Has Lord John Russell duly considered this matter? In his last Bill, he proposed to give members to the Inns of Court, forgetting that at that very moment every eighth man in Parliament was connected with the law. The Church is amply represented in the Upper House. Medicine, the only one of the three professions which may be said to be growing, and presenting ever new phases of usefulness in national affairs, is alone passed over.

It is well known that Lord John Russell appreciates the justice of our cause, and, if we only pressed a little, would be happy to open the door to us; but we make no sign. When he was preparing his last Reform Bill, he absolutely offered to give the Council of the College of Surgeons a member; but that body declined. No doubt, they were wise in their own generation. But, we ask, what right had they of their own motion to refuse? Probably Lord John imagined that he was dealing with a representative body, in making the offer; and it was this miserable mistake that prevented the true sense of the profession from being known. Can it be doubted that, if the members of the College had been polled, they would have spoken loudly in favour of accepting the offer? And is it reasonable to doubt that such a demonstration would have been remembered by Lord John in his second Bill? This opportunity lost, we must score to the debit of the Council of the College against the day of reckoning, which is assuredly not far off.

But have we yet no chance in the new Bill? It is proposed to give a representative to the University of London, which contains less than a thousand graduates. If this be granted, surely the claims of the members of the Colleges of Physicians and Surgeons, containing not less than sixteen thousand educated and scientific gentlemen, cannot be passed over. As far as we can see, the medical voice of the University of London will not be very potential; and the medical is the voice the country and the profession want. In the popular continental assemblies, the medical element is generally very prominent; there, science is not pushed aside by mere wealth; and, in this respect, we are behind our neighbours. If, as individuals, we cannot fight our way into the House against rich stockbrokers and millionaire cotton lords, the state should see that we should have some opening through our corporations, which existed before stockbrokers or cotton lords were heard of. It used to be a favourite argument with Lord John, as the mouthpiece of the Whig party, that it was necessary to maintain the small boroughs, as doors through which persons of talent could be introduced to the legislature. With much more justice could it be urged that special doors should be opened into the legislature for the admission of long patient Medicine and the great science she represents; and we trust that the Council of the College of Physicians will not fail to press her claims upon Lord John Russell, who may yet be induced to grant to us what the Council of the College of Surgeons so furtively rejected.

THE WEEK.

The dentists, spurred into activity by the attempt to deprive them of their independence, have taken a step which will ensure for them the goodwill and support of all those members of our profession who have so well fought the battle of right. Anxious to ascertain the exact feeling of their medical brethren on the question of an independent institution for dentists, as opposed to the principle of making dentistry an inferior and licensed speciality of surgery, the Council of the College of Dentists have thrown themselves on the sympathies of the medical body, in a manner at once straightforward and statesmanlike. They have issued, and are, we believe, still issuing, a circular to the members of our profession, which concludes with the following paragraphs:—

"The Council of the College of Dentists believe that the good understanding which has ever prevailed between the medical and dental professions will be best maintained by these professions continuing independent of each other, and that the addition of dentistry to medicine, as a mere speciality or appendage, will tend only to make an inferior class of surgeons, whom *the public will not distinguish from the fully qualified practitioner*. The Council believe, therefore, that the interests of the medical, not less than the dental profession, are involved and endangered by the present act of the College of Surgeons.

"Under these circumstances, the Council of the College of Dentists, being desirous of obtaining the opinion of the medical profession at large, as to the question—Whether an independent institution of dentists is, or is not, most in accordance with the wishes of the medical profession?—has issued the accompanying paper. Should the opinions therein expressed be in accordance with yours, we shall feel obliged if you will kindly add to the document your signature, together with those of any medical friends, and return it to us by an early post."

The paper referred to is the subjoined declaration:—

"We, the undersigned, are of opinion that the principle of making dentistry a medical speciality by virtue of a certificate from the College of Surgeons, is contrary to the interests of the medical profession; and that the organisation of the dental profession will be best accomplished by an INDEPENDENT INSTITUTION, emanating from, and governed by, dentists themselves."

The course thus taken by the dentists is most honourable. If the medical profession were opposed to the existence of a separate dental institution, the members of the College of Dentists would doubtless be apprised of the fact. If, on the other hand, the profession is in favour of the independence of

the dentists, its members will give them additional stimulus to carry on their exertions. So far as matters have proceeded, things look promising. Above one hundred and fifty signatures have been already received, including the names of some of the most eminent members of the profession in London and the country. We have no doubt that next week we shall have to announce the addition of a majority of the medical profession. In the mean time, we commend the movement of the College of Dentists to the support of our associates. Gentlemen desiring to express their approval of the action of the dentists can readily do so by copying and signing the declaration given on the preceding page, and forwarding it to "the Honorary Secretaries, College of Dentists, 5, Cavendish Square, London."

Our fellow-associates will not, we hope, think us tedious if we once more urge on them the importance of supporting the Poor-law medical reform movement by all means in their power, especially by forwarding petitions to Parliament, and by impressing the merits of the subject on the notice of individual members. We would also again commend to their careful notice another valuable means of gaining the end in view; viz., the procuring of petitions from persons not belonging to our profession. If it is fair to judge from the personal experience of our correspondent in this day's Journal—"A Moderately Paid Union Officer"—there will be little difficulty in procuring vast pressure from without the profession in the right direction. According to our correspondent, what is chiefly required is to place before the public a clear statement of the miserable and unequal manner in which union medical officers are paid. Evidently, much misapprehension exists on the subject; but it may, in a large number of instances, be removed by an appeal to the figures derivable from Mr. Griffin's elaborate statistics.

The profession has often heard of the abuses of our system of gratuitous hospital advice, and of the manner in which well-to-do persons impose on our public charities. It seems, however, that on the other side of the world, impudence is carried even to a greater extent than in this country. A writer on charitable institutions, in the *Australian Medical Journal* for January 1860, concludes his article with the following paragraph.

"It is no uncommon thing for persons with a rental of two or three hundred a-year to send their wives and children to the hospital for relief; that in like manner, storekeepers who take their £50 or £60 a-week are patients; that we have heard one of the medical officers stating that he has known a man with a rental of £1,000 a-year attending as an out-patient; that it is a common practice with these very persons to say to their friends, 'why do you pay for medical advice when you can get it from the Hospital for nothing?' There are to be daily seen, in the out-patients' waiting rooms, persons seeking advice who are better dressed and adorned with more jewellery than the wives and daughters of many of the subscribers, and it has but lately happened that a man who, upon paying a small account as a private patient, handed a £50 instead of a five pound note, protesting that it was the last money he had in the world, and in a few days after was recognised in one of the wards of the hospital, having obtained admission on the false pretence of poverty."

Association Intelligence.

COMMITTEE OF COUNCIL: NOTICE OF MEETING.

The next meeting of the Committee of Council will be holden at the Queen's Hotel, Birmingham, on Tuesday, the 20th inst., at one o'clock.

Principal Business: to receive the Report of the Audited Accounts; and to arrange the time of the Annual Meeting.

Philip H. Williams, M.D., *General Secretary.*

Worcester, March 6th, 1860.

BRANCH MEETINGS TO BE HELD.

NAME OF BRANCH.	PLACE OF MEETING.	DATE.
Midland. [Ordinary Meeting.]	Board Room, Infirmary, Derby.	Thurs., March 22nd, 3 P.M.
Birmingham and Midland Counties. [Ordinary Meeting.]	Hen and Chickens Hotel, Birmingham.	Thursday, April 19th, 6 P.M.

SOUTH-EASTERN BRANCH:

ROCHESTER, MAIDSTONE, GRAVESEND, AND DARTFORD DISTRICT MEETINGS.

The third of the present series of these district meetings will be held at the Town Hall, Gravesend, on Friday, March 30th, at 3.30 P.M. Dinner (punctually at 5·30 P.M.) will be prepared for those who may be able to remain.

Gentlemen intending to dine, are requested to give an intimation thereof to Mr. Dulvey, of Brompton, Chatham, or to Dr. Armstrong, of Gravesend, on or before Wednesday, March 28th.

Trains will leave Gravesend for London, and also for Rochester, Maidstone, and Sittingbourne, at 8.19.

James Dulvey, *Honorary Secretary.*

Brompton, Chatham, March 1860.

ADMISSION OF MEMBERS, AND PAYMENT OF SUBSCRIPTIONS.

The following are the Laws of the Association regarding the Admission of Members, and the Payment of their Subscriptions.

"*Admission of Members.* Any qualified medical practitioner, not disqualified by any bye-law, who shall be recommended as eligible by any *three* members, shall be admitted a member at any time by the Committee of Council, or by the Council of any Branch."

"*Subscriptions.* The subscription to the Association shall be One Guinea annually; and each member, on paying his subscription, shall be entitled to receive the publications of the Association for the current year. The subscription shall date from the 1st January in each year, and shall be considered as due unless notice of withdrawal be given in writing to the Secretary on or before the 25th of December previous.

"If any member's subscription remain unpaid twelve months after it shall have become due, the publications of the Society shall be withheld from such member until his arrears be paid.

"The name of no member shall remain on the books of the Association, whose arrears extend over three years; but the omission of the name from the list of members shall not be deemed, either in honour or equity, to relieve any member from his liability for the subscriptions due for the period during which he has availed himself of the privileges of membership."

Either of the following modes of payment may be adopted:—

1. Payment by Post-Office Order to the Treasurer (Sir C. Hastings, M.D., Worcester), or to the undersigned.

2. Payment to the Secretary of the Branch to which the member belongs.

3. Members can also make their payments through the publisher of the British Medical Journal, Mr. Thomas John Honeyman, 37, Great Queen Street, Lincoln's Inn Fields, W.C., by post-office order, payable at the Western Central District Office, High Holborn.

Philip H. Williams, M.D., *General Secretary.*

Worcester, March 1860.

Reports of Societies.

OBSTETRICAL SOCIETY OF LONDON.

Wednesday, March 7th, 1860.

Edward Rigby, M.D., President, in the Chair.

Letters were read from Professor Scanzoni and Dr. Meigs, acknowledging the gratification which they felt at being elected honorary fellows.

Case of Fallopian Pregnancy. By Henry Grace, Esq. (Communicated by Graily Hewitt, M.D.) The patient was six or seven weeks advanced in pregnancy, and died from rupture of the tube. At the *post mortem* examination, about three pints of blood, partly coagulated, were found within the peritoneal sac. The source of this was a rupture of the left Fallopian tube, which was enlarged about its middle to the size of a walnut. On cutting into this enlargement, a layer, resembling the decidua, presented itself within the tube connected with the chorion; and on a deeper incision being made through the amnion, about a drachm of liquor amnii escaped, and an ovum of about six weeks was seen. The uterus was neither enlarged nor congested, and had no decidua. A corpus luteum was present in the left ovary.

On Concealed Accidental Hæmorrhage during the latter months of Pregnancy and Labour. By J. Braxton Hicks, M.D. Although this class of accidents had been alluded to by various writers, it seems that few had witnessed it, for after an extended search only eight cases were found recorded—viz., by Albinus, one; Mr. Saumerez, one; Mr. Coley, one; Dr. Johnson (Dublin), two; Dr. Oldham, three (one private case, two of Guy's Hospital Charity). These were quoted nearly in full, and to them the ninth was added by the author. The details of all were analysed, from which it appeared that only two recovered, and in them the condition occurred at seven months and a half of pregnancy. The remaining seven, which died, were at full term, or in labour. The children were still-born in all, where mention was made. The symptoms were very similar in each. Severe pain was noticed in one case. If, at the period above mentioned, syncope supervene, the uterus very tense and enlarging, the outline of the fœtus indistinct, and the more especially if the liquor amnii have escaped, it may justly be concluded that this form of hæmorrhage is going on within the uterus. The reason that this accident is more appalling at this time than in the earlier months, was shown to be—1st, from the more easy separation of the uterus at full term; 2ndly, the capability of the placenta forming a larger bag, from its larger area, and the larger calibre of the blood-vessels; and, 3rdly, from the uterus being more expanded, the falciform pseudo-valves act less readily. The early recognition of this condition was urged as all-important with regard to this treatment, to which the modern plan for "accidental hæmorrhage" was applicable, should there be sufficient power; while in the cases where the patient was *in extremis* when first seen, it was held advisable that the emptying of the uterus should rather be deferred till some slight improvement appeared, as was recommended by some authors in placenta prævia, in the meanwhile supporting the system, employing firm pressure and cold on the fundus uteri, and endeavouring to excite the uterus to action by secale and galvanism, being ready on a slight rally to extract the fœtus. In the case of the author, the peritoneal coat of the uterus was rent in many places, some lines in depth, without any hæmorrhage; and references to some other cases were given of this form of ruptured uterus; the peculiarity in the above case being, that not a drop of blood had been effused into the peritoneum. This was accounted for by an alteration in the tissue of the whole anterior wall of the uterus.

ON SPECIAL POSITION AND THE OBSTETRIC BINDER AS AIDS IN THE TREATMENT OF IMPEDED PARTURITION.

BY ROBERT HARDEY, ESQ.

The position advocated in this paper was the sedentary on chairs, to which the author's attention had been first directed in 1827, under the direction of the late Mr. R. M. Craven, sen., of Hull. From that period to the present he had adopted this mode of management (and had recommended the same to his obstetric class at the Hull and East Riding School of Medicine) in all cases where the difficulties to be overcome demanded more than ordinary efforts for the accomplishment of the delivery. The author observed that in our treatment of labour generally we were apt to ignore the important fact, that the activities of parturition were dependent altogether on muscular power—*ergo*, all agents which sustained and increased motor force were real benefits to the parturient female, and *vice versâ*. Of these excitors of motor power, two of the most valuable were the sedentary posture and the obstetric binder.

Mr. Hardey next pointed out the advantages and disadvantages resulting from a variety of parturient positions—viz., standing, reclining on the back, prone, and horizontal postures, and concluded this part of his subject by a strong recommendation of the sedentary posture on or between two chairs. The plan adopted was to secure the fronts of two chairs to each other, and then separate their back parts from one and a half to two feet; to place the patient well over or between these, with her knees firmly pressed against the side of the bed, her chest fixed by holding on to the foot-post of the bed, and her feet placed firmly on the floor. The accoucheur sat or knelt behind his patient, who remained on the chairs till the difficulties in the case had been overcome, which was evidenced by the emerging of the parietal bones from behind the perinæum. The woman was to be then removed to bed, and finally delivered in the ordinary position. Before seating the patient, her abdomen was to be carefully sustained by a broad binder, to which Mr. Hardey attached far greater importance than is conceded to it generally. The views advanced were illustrated by diagrams and drawings. In every case before adopting the sedentary posture, the part presenting should be somewhat within the pelvis, and the os uteri half dilated. The practice was contraindicated by—1st, impending systemic exhaustion; 2ndly, inflammation in any vital organ or part more immediately associated with parturition, serious uterine hæmorrhage, previous puerperal convulsions, version presentations, a pulsating funis, and extreme pelvic obliquity. The agents named, the author maintained, secured to the parturient female in impeded labours—*a*, the very important aid derived from gravitation in the uterine ovum; *b*, the putting forth under the most favourable circumstances the highest amount of motor energy of which nature is capable; *c*, the bringing the abdominal and pelvic axes into the same obstetric plane; and *d*, the imparting great support to the fundus uteri in its contractions by the obstetric binder. He strongly recommended the use of the binder before delivery in a variety of cases, independent of its connexion with the chairs, as an agent which usually accelerated the birth of the infant in a remarkable manner. The parturient conditions demanding the use of the chairs and binder were those arising from both mother and infant, in which unusual delay or difficulty presented themselves. The treatment of these was illustrated by cases, illustrative of the efficacy of the plans advocated. The period required for the delivery varied with the obstacles to be overcome, from one to two hours being ordinarily sufficient, with an interval of repose on the bed.

In conclusion, Mr. Hardey commended the practice to his professional brethren from the following considerations:—1st, its great simplicity; 2ndly, its entire freedom from danger *per se;* 3rdly, its very great potency; 4thly, its testing the ability of nature to accomplish the delivery at a period sufficiently early to enable the accoucheur to decide on the use of instruments before material damage had been sustained by the maternal tissues; 5thly, the conscious satisfaction experienced by the woman at feeling her labour is progressing towards completion; and lastly, its being a great economist of professional time, which, to medical men, is property of the most valuable description.

Dr. Granville was not a sufficient adept in mathematics to understand clearly the diagrams which had been handed round. But the author, by his description of cases, had shown that a practice which it was the fashion to laugh at throughout a part of Europe, might be very usefully adopted. He believed that it was a most common custom for women to be delivered in a sedentary posture in Russia, Greece, Algeria, and some portion of Switzerland; and also in Germany when midwives were in attendance. Had, therefore, this practice, which was that adopted by the ancient Greeks and Romans, been found otherwise than useful, it would long since have been abandoned.

Dr. Druitt thought the paper was a valuable one; for although it advocated nothing new, yet it was advisable to remind the fellows of the advantages to be derived from adopting the practice recommended by Mr. Hardey. The publication of the paper might also be useful in removing much of the pedantry by which the practice of midwifery was at present surrounded, as well as by showing that the British school was

not altogether faultless. He believed that the instincts of most women would lead them voluntarily to adopt the sedentary position if they were allowed to do so; and certainly this would very often be the case in difficult labours.

Mr. Pollock said that he could speak from an experience of thirty years; and he believed that the occasional adoption of the sedentary posture often rendered the use of instruments unnecessary.

Dr. Graily Hewitt wished to know the number of cases in which the author had adopted the method now recommended.

Mr. Hardey was not prepared to give an exact answer.

Dr. Rigby remarked that the adoption of the sitting posture in labour was of the greatest antiquity. He need only remind the fellows of the words of the King of Egypt as recorded in Exodus—"When ye do the office of a midwife to the Hebrew women, and see them upon the stools." In the present day he believed it was not an uncommon custom amongst the Irish poor for the husband to be called in to the lying-in room, so that the woman might sit upon his knees.

After some further observations by Dr. Tanner and Dr. Tyler Smith,

The Author replied to the various remarks which had been made; and at the same time impressed upon the meeting that he only recommended the sedentary posture in certain cases attended with difficulty, inasmuch as the ordinary position on the left side was admirably suited for the greater number of natural labours.

MEDICAL SOCIETY OF LONDON.

Monday, March 12th, 1860.

A. B. Garrod, M.D., F.R.S., President, in the Chair.

The new President thanked the Fellows for the honour conferred on him. Votes of thanks were unanimously given to the Officers and Council of the Society for the past year.

THE RADICAL CURE OF VARICOCELE BY SUBCUTANEOUS SECTION. BY HENRY LEE, ESQ.

Mr. Lee commenced by briefly noticing the operative proceedings in regard to varicose veins that had been recommended by Sir Benjamin Brodie. He observed, that the operation of simple subcutaneous section offered no defence against hæmorrhage, nor against the absorption of the products of decomposition through the divided ends of the vein. These may, indeed, be efficiently closed by natural processes; but still accidents are liable to occur. Even in some of the cases noticed by Sir B. Brodie, there had been inflammation, and in some erysipelas. Sir Everard Home recommended ligature; but, in some cases treated in this way, venous inflammation and death followed.

In 1853, Mr. Lee adopted the plan of passing needles under the vein, one above and another below the part to be divided, and twisting a ligature round the ends of the needles, in the form of a figure of 8. Coagulation of the blood in the part lying between the needles was produced in two or three days; the vein between the needles was then divided; and union was generally complete in three or four days afterwards. In one case only were there severe local and constitutional symptoms; and, in this instance, it was found that one of the needles, instead of passing under the vein, had transfixed it, so that morbid matter had found its way under the needle into the circulation.

The obliteration of the vein is favoured by the formation of coagula; but still the same object can be obtained even when no coagulum exists, if the needles are properly introduced. At the suggestion of Mr. Bowman, therefore, Mr. Lee had, in several cases, and with good results, divided the varicose vein at once after the application of the needles and ligature, without waiting for the formation of a coagulum. If the vein is properly secured, no morbid matter can find its way into the general circulation.

The operation described by Mr. Lee had been performed several times by other surgeons; and, as far as he knew, without the occurrence of serious symptoms. In performing the operation, the vein should be raised with the finger, and the needle introduced. Care should be taken that the needle pass behind the vein, especially if the vessel be large; for, if it be transfixed by the needle, there is a channel left for the passage of decomposing matter. This risk, however, diminishes considerably in small veins, the calibre of which is often obliterated by the needle itself when they are transfixed.

After the introduction of the operation for varicose veins of the lower extremity, opportunities were soon afforded of applying it in cases of varicocele. In this affection, it seems almost impossible to avoid perforating some of the veins; but, as far as Mr. Lee knew, no bad results had followed. In operating on the spermatic veins, the author preferred allowing the coagulum to form before dividing the vessels; inasmuch as there is here greater liability to hæmorrhage, from the difficulty of entirely including the varicose mass, from the collateral circulation, etc. In operating, the patient may take a little chloroform; but not so much as to produce perfect insensibility. The varicose mass is then taken up with the fingers, and rolled over until the vas deferens is felt to escape. The needles are then introduced, so as to pass between the veins and the vas deferens; and the ligature is drawn moderately tight over them. On the third day, the part is held as before; and, a knife being passed between the vas deferens and the veins, its edge is turned towards the skin, and the veins are divided. Care must be taken that the knife do not pass below more veins than are ligatured. In about four days, the needles and ligatures may be removed; and, in another day or two, the patient may get up. It is advisable not to cut off the ends of the needles too close, lest there should be difficulty in removing them.

Mr. Lee illustrated his remarks by the narration of several cases.

Mr. Hilton had had no experience of the operation described by Mr. Lee. He had, in eight or ten instances, treated varicocele by simple ligature, without the occurrence of any mischief; but, in all these cases, a pad of lint had been applied for three or four days over the external abdominal ring, so as to keep up pressure on the vessels. He could not say whether his cases would have been more perfect if operated on by Mr. Lee's plan; but he believed that, in his own patients, there was more pain than appeared to be produced in Mr. Lee's operation. He thought it important that the ligature should in all cases be applied at the highest part of the varicose vein, as near as possible to the healthy vessel.

Mr. Bryant had remarked the shortness of the period which Mr. Lee's operation required, as compared with Mr. Hilton's. He believed that, in Mr. Hilton's cases, the time was from ten to fourteen days.

Mr. Hilton said, the time before the ligature was removed was certainly longer in his cases; but the patients were kept in bed less from absolute necessity than as a matter of safety and preservation against risk.

Mr. H. Smith thought the great merit of the paper was the endeavour to diminish the danger of operating on veins. He had adopted Mr. Lee's plan with success in several cases of varicose veins in the leg; but he had not had an opportunity of performing it on the scrotum. He had heard of one fatal case in varicocele, in which ligature was applied; the patient died from low inflammation, section of the vein not having been performed. He would ask Mr. Lee whether he considered the proceeding, in regard to operation on the saphena, quite free from danger, provided that care is taken to place the needle behind the vein?

Mr. De Méric alluded to cases in which the saphena vein is a mass of knots, probably with effused fibrine. Would Mr. Lee apply his operation here? He had not quite understood the reason for dividing the vein after closing the canal above and below. It appeared that, as no blood can pass, the varicose condition must cease. He was struck with the shortness of the time required. He had thought that, in such cases, œdema of the scrotum was left; and he believed that the circulation in the scrotum could not be interrupted to a great extent without local and even constitutional disturbance. The chief trouble in varicocele was the dragging down of the testes. Was there a shrinking of the scrotum after operation on the affected side? and would it not be advisible to make the patient wear a suspensory bandage for some time?

Dr. Gibb called attention to the proceedings adopted by Mr. Erichsen in cases of varicose veins of the leg and of varicocele. He had observed that patients, after being apparently cured, will return with the varix in two or three years.

Mr. Lee said that the operation mentioned by Mr. Hilton was a very good one. The suggestion of obliterating nearest the surface was very important. The chief differences between his operation and that of Mr. Hilton were two. 1. His (Mr. Lee's) operation required shorter time—a point chiefly important in private practice. 2. The amount of pain was less. He only used the needles as temporary ligatures, so as to bring the sides of the vessels together. In his operation, he avoided suppuration and ulceration, which he believed were the source

of the fatal results, but to which, more or less, ligature inevitably tends. He would have no hesitation in operating on the knotty veins described by Mr. De Méric; but he would first operate at the part nearest the circulation. As to the dividing the vein, the reason for doing this was, that the lining membrane of the vein is not serous, and does not secrete lymph in its natural state. It may be mechanically blocked up by lymph, but there is no vascular union. But if the vein be divided, then vascular union can take place. With regard to the alleged return of varix, it was very probable that a patient may have another varicose vein near the original one, after a time.

Editor's Letter Box.

POOR-LAW MEDICAL REFORM.

Letter from Richard Griffin, Esq.

Sir,—I shall feel obliged by your allowing me, through the medium of your Journal, to inform the Poor-Law Medical Officers, what I am sure will be a source of much regret to them; viz., that domestic affliction has caused Mr. Pigott to apply for leave of absence from the House of Commons until the 23rd inst. The introduction of the Poor-Law Medical Bill must, therefore, necessarily remain in abeyance for a short period; but I hope medical men will not relax in their efforts to obtain the support of the individual members of the House.

I am, etc., Richard Griffin.

12, Royal Terrace, Weymouth, 10th March, 1860.

POOR-LAW MEDICAL REFORM.

Sir,—I am glad to see by the letter from "An Associate and Poor-Law Medical Officer," that some have been attempting parochial petitions in favour of Poor-Law Medical Reform. I am quite certain that Mr. Griffin is correct. If the Bill does not pass, it will be owing to our apathy. I have managed to muster nearly twenty parochial petitions from friends and others; and, as a rule, very respectably signed. I have, however, inserted in Mr. Griffin's form, No. 2, the average payment we now receive, viz., three shillings and one penny per patient, as I found that some few ratepayers considered us too well paid already, until I told them the average rate.

I am grieved to see that on a subject that affects the well-being of such a large section of the profession, the dons (if I may use the word) are even more apathetic than the rest of us. Unless I am mistaken, at the late meeting of the Bath and Bristol Branch, there was a petition on the table in reference to Poor-Law Medical Reform, which I expected would be signed by the president and those to whom we look up to support every good movement in the profession. I believe it was never signed by anybody; for the juniors, seeing those who should lead them on stand aloof, did not like to put their names down before their elders; and so the matter dropped.

I trust so unsatisfactory an example will not be followed by other Branches. Many persons disapprove of Mr. Griffin's method of working the question. My reply to such persons is, "devise a better, and help us to work it; but if you do not assist us, what right have you to find fault?"

A Moderately paid Union Officer.

March 13th, 1860.

THE ROYAL COLLEGE OF SURGEONS OF ENGLAND.

Sir,—Some twenty years since, I obtained the diploma of the College of Surgeons, and looked upon it as something worth possessing; but, from the way in which the Council are now granting it, I believe that many others, with myself, will very shortly feel ashamed of being members of such a body as the College of Surgeons, which really ought to be of as high standing as any in the kingdom. In those days, the Apothecaries' Company were called a "set of traders", etc.; but, to say the least, they gave a good, fair, and practical examination, and have never insulted their members in the way the College has done, and is still doing. For instance, the College conferred the fellowship on members who submitted themselves to an examination (this was a test of merit, and all fair); and then *sold* the fellowship to men some of whom would be as much afraid of touching a scalpel as they would be of handling a live crocodile. This brought "grist to the mill", and the gentlemen were dubbed F.R.C.S. Now the Council admits men who have not gone through the prescribed routine of education; and, by way of further insult, proposes the admission of dentists. The latter gentlemen (very wisely) appear determined to keep aloof from so mercenary a body. Much has been said of late about elevating the profession. I suppose this means, granting *any one* this celebrated diploma, and then the ten-pound licence of the Edinburgh College.

Perhaps you will kindly inform your readers when the bone-setters and the chiropodists are to be admitted as members of the College. Surely their turn will come soon. And, as money appears to be the chief object which the Council of the College have in view, let those who are interested in John Hunter's invaluable museum look sharply, lest it, like us members, be *sold*.

I am, etc.,

A Country Apothecary.

March 1860.

THE ROYAL COLLEGE OF SURGEONS.

Sir,—The College of Surgeons has of late granted its diploma to a number of grossly uneducated men, to the great grief and no less displeasure of those members of the College who, when admitted, never supposed for a moment they were destined to be associated in any such company.

Will you, then, permit me, through the Journal, to put a question which, I trust, will call forth an answer sufficiently definite to serve as a guide to myself, and others like me, who may labour under the mortification of having any of these professional hermaphrodites in their neighbourhood?

Can any individual, holding only the diploma of the College of Surgeons, visit, dispense medicines, and charge for the same, without subjecting himself to a legal penalty? And, if he cannot, what is the course of proceeding to take, to put him down?

It occurs to me that the profession stands in great need of some central prosecuting society, with branches in the country, to take up such cases of malpraxis which so generally abound, and thereby relieve private individuals the unpleasantness inseparable from a prosecution.

I am, etc., Nemo.

March 13th, 1860.

ON SUPPORTING THE PERINÆUM.

Sir,—If every reader of the British Medical Journal, who has an opinion on the question proposed by "Aliquis" as to the expediency and best method of supporting the perinæum during labour, were to express it in writing, your columns would soon be filled by every conceivable variety of experience and theory. And yet, in spite of a wholesome dread of such a catastrophe as an obstetrical controversy, I feel strongly infected with the desire to set down a few words on the subject. The two *extremes* are already represented respectively by Mr. Samuel Smith and Dr. R. Uvedale West. The former gentleman, it appears, is an exponent of the *supporting plan*. When he heard, a few years ago, that an old pupil of his class "had entirely given up counterpressure as advised by him, and believed that his patients did better without it," he "could not but feel glad, for the sake of the young wives in the neighbourhood," when he heard also that the pervert "had left the profession and gone to a more lucrative occupation." For the credit of Mr. Smith's charity towards many who are yet engaged in the *less lucrative* occupation, we must hope that it was *more particularly* the fact that his old pupil had bettered his circumstances, if such were the case, which gave him the benevolent gladness. From the other extreme of opinion, Dr. R. Uvedale West writes that, "if Aliquis will let the perinæum alone, he will find that it will scarcely ever be ruptured"; and then very unwisely adds that, "in fact, it is most frequently the compression of the part between the hand of the accoucheur and the head of the fœtus, which, by bruising the tissue and otherwise preventing its relaxation, causes the laceration." Medicine is confessedly an uncertain science; and, according to these differing doctors, the art is not much better. Amidst such conflicting opinions, how are we, the juniors and "old pupils" of such mature advisers, to determine which course we shall adopt, unless, like Mr. Smith's friend, we venture to have an opinion of our own, or cause gladness to the hearts of our seniors by making an exit from a profession for which we are so incompetent as to suppose we had better leave our patients alone? What is the real cause of these discrepancies? are they to be attributed to

the diverse nature of the facts observed by different individuals, or to the varied aspects which the same facts will present viewed in the light of opposed theories. We can all understand the attainment of the same end by different means; but, when one authority lays it down that the plan adopted and prescribed by another authority is "most frequently" the cause of the evil which it is designed to obviate, I am personally at a loss to discover alike the reason and reasonableness of such a contradiction.

I have dwelt thus at length upon the *decided* expression of these adverse opinions in your number of the 25th inst., because the paradox, though by no means unequalled in the annals of medical discussion, is certainly of serious moment, if not to the interests of scientific truth, at least to those of the profession, as calculated to mislead in practice, or make sceptical in theory. A just estimate of the matter at issue can scarcely be obtained without something like a well considered view of the circumstances and conditions under which the danger to be avoided is likely to occur.

We are all more or less familiar with the anatomical details of the parts concerned, and with the nature and direction of the forces engaged in the last stage of labour, and, indeed, of the middle also; for both are intimately concerned in producing the conditions favourable to rupture of the external parts. But perhaps there are no two cases essentially alike in regard to those more variable conditions of a secondary nature which enter so much into the composition of the functional act of parturition; such as the character of the presentation, not only in its phase as referred to a particular class by authors, but, what is perhaps, in respect to the present subject, of even greater importance, those modifications of which it is susceptible by the greater or less degree of compression which it undergoes in the osseous canal, and by the extent and duration of the force which is exerted upon it by the contractions of the uterus; producing in their turn peculiar prominence of particular parts of its surface, as in the extreme overlapping of the cranial bones, and determining the amount of pressure which it shall exert on the surrounding parts by its anterior, posterior, or lateral aspects; each and all of which conditions, however apparently trivial in themselves, may operate strongly in producing or preventing the risk of rupture of the perinæum.

And there is one point that I have not seen particularly noticed by writers on the subject, which, in addition to these, may constitute a fruitful source of danger; and its consideration may prove suggestive of some points worthy of notice. I allude to the fact that, in many cases, the perinæum is much more easily distensible at the posterior part than at the anterior border; and this circumstance renders it possible that a presentation which has made a somewhat rapid exit from the pelvic cavity (as may happen in cases of straight sacra, shallow pelvis, and wide outlets), may impinge upon the hinder part of the perinæum, strongly dilating it, whilst the anterior border assumes the form of a pendent loop in front of the presenting body, and is not so easily dilated. Again, when the anterior border is not quite so undilatable as in the last case, and yet not sufficiently distended to allow the complete passage of the fœtus, the latter will protrude to a certain extent; and, if it has any hard projecting points, as before mentioned, such as the overlapping bones of the head, sometimes presenting an almost sharp edge, which does not immediately subside, the perinæum may be subjected to severe pressure at one or more portions of its surface. Or again, in a similar case, the perinæum may be carried forward on the presenting part, and lacerated when the shoulders are making the last turn. In each of these cases, it would appear that the greatest danger arises from the excessive straining of particular parts of the perinæum, rather than from more general distension; and I think it will be found that, in by far the majority of cases, danger is to be apprehended and guarded against from these causes. The plan recommended by Mr. Smith, namely, the use of lard, tends greatly to obviate many of these difficulties, and is both easy of application and grateful to the patient; and perhaps it is especially useful in removing one circumstance, which in itself may be the cause of an alteration in the course of the presentation, or tend to increase the difficulties already named—I mean the dryness of the upper surface of the perinæum. In several instances, I have distinctly seen this impediment removed by the free use of the lard, even between the last pains.

But, assuming that the conditions I have indicated are very mainly the causes of that state of affairs which renders rupture of the perinæum probable, much may be done to remove them in the earlier part of the labour; that is, I believe, near the end of the middle stage, and just at that juncture, with which all are familiar, when the external parts begin to strain and become tense; then, if not before, the anterior border of the perinæum may be gently dilated with the hand, at the same time lubricating it with lard or oil. This may readily be done with the left hand; and, in a very short time, the parts become so soft and distensible, that the danger is averted. I have no right to speak from experience, in the presence of your many readers; but I can well remember several cases in which the danger of rupture seemed imminent, and I have never yet known this plan to fail. If judiciously applied, I doubt not that it will be found to prevent the danger, and render "supporting the perinæum" unnecessary. I confess to believing that patients are better without any support to the external parts, unless in very exceptional cases; and I am inclined to think that the estimate Dr. West has given of it may not be far from the truth. At best it can but diminish the force of the pains, or divert its influence; and, besides the very questionable policy of presenting any unnatural obstacle to the usually violent efforts of the uterus in the last stage of labour, it must be far better so to facilitate the progress of the fœtus, that the natural force, instead of being expended in straining the tissue in any particular part, or weakened by the pressure of the hand, may be allowed to exert itself naturally in the progressive dilatation of each portion of the perinæum as the presentation advances. It does not seem improbable, also, that much undue pressure is exerted on the perinæum because the presentation is not made to turn well up under the pubic arch; to insure which, greater stress might well be laid on the position of the patient, the wide separation of the thighs, and their flexure upon the abdomen to such a degree as will make the posterior part of the perinæum sufficiently tense to direct the presentation forwards. This, although perhaps at first sight a doubtful effect, will, I think, on consideration be allowed to have a marked influence. And in all cases where the custom of "taking the child" is adopted, the relative position of the accoucheur and his patient will be worthy of attention. Some cases of laceration might possibly be prevented, if it were customary to sit more in front of the patient, so that, if any extractive force be exerted (as in some *exceptional cases*), it may be only in the natural direction of the last curve. It might be useful and suggestive to inquire into these general circumstances in such cases. But are these accidents really so common? If I had any claim to speak from experience, I must doubt it; and I confess that, in *by far the greater number of cases*, I would rather follow the advice of Dr. West and the practice of Mr. Smith's old pupil, and leave the case to nature, the course of which so often triumphs, when art can at best but fail to do mischief. Happy for "the young wives of the neighbourhood" if it is no worse.

I am, etc., J. M. G.

February 29, 1860.

THE ASSOCIATION AND THE JOURNAL.

Letter from John Dix, Esq.

Sir,—What a satire on our Association is the discussion at the Metropolitan Counties Branch! What a demonstration of the justice and accuracy of the sarcasm which nicknamed us "The British Medical Journal Association"! What a conclusive proof that, in the opinion of some amongst us, "the Association exists for the Journal," and of their determination to maintain this arrangement!

Surely there was hidden irony in the remarks of my friend Holmes Coote (who I know sometimes delights in the humorous), that "but for the Journal he should know nothing of the Association," and in Dr. Webster's statement that but for the Journal "he could not ask gentlemen to join the Association." Similar sentiments issued from the mouth of Mr. Daniell when he came to judgment on my first paper. These, be it remembered, are the statements of advocates of the Journal, and are considered arguments in its favour.

Did it never occur to the minds of any of these gentlemen, that an Association which assumes to itself the pretentious title of "The British Medical Association" *ought to have* some other benefits to bestow upon its members—some other inducements to offer to outsiders besides a weekly journal, the quality of which may be well and fairly estimated by observing the great and general desire now being exhibited for its improvement.

At a meeting convened for the special purpose of resolving "that the Association cannot efficiently fulfil its mission without a weekly organ of its own," one might reasonably

expect to be told—what "the mission" of the Association really is—to what extent this mission has been and is being fulfilled—and how far this fulfilment is dependent on "the weekly organ of its own."

One seeks in vain for any such information in the observations of the proposer and supporters of the resolutions passed by the Metropolitan Counties Branch. I find instead plenty of *assertion* that the publication of a journal "is the most effective possible plan of carrying out the objects of the Association, that without a journal the Association would be shorn of its strength." "It is for the interest of the Association *then*" (as if the speaker imagines he had *proved* something), "to have a journal—and he would say a weekly journal." "A fortnightly publication would be neither fish, flesh, nor good red-herring."

In such terse and elegant language as this did Dr. Stewart reiterate his own opinions.—On what these opinions are founded, or whence derived, he omits to tell us. Neither in his speech nor in the remarks of others, nor indeed in anything which has transpired throughout this "journal discussion," have I been able to find the foundation of the theory that a weekly journal is *necessary* for the existence and spread of the Association. So far as I know, it is a mere assumption; entirely unsupported by argument, or proof—by reason, or precedent.

Yet we have still the old cry of more money for the Journal—new associates are to be enlisted because they will "yield a large profit" for the Journal (of course it is to be hoped they will also profit by it)—yea, a favourable reception is given to a proposition to increase the subscription to the Association for the benefit of the Journal—for such the postage payment virtually is.

The only shadow of an argument to be found in the speeches of Dr. Stewart—unless a platitude about "the great power of the press" be deemed an argument—is, that the Journal increases the numbers of the Association, and other speakers reechoed his words. I have before been taken to task for venturing to entertain an opposite opinion, and it is a fact (there is no denying it), that the list of "members who have paid their subscriptions for 1860," published the other day, does actually contain the name of one new member who has declared that he joins the Association for the sake of the Journal. Admitted then that the Journal does attract some to our ranks, is there not another side to the question? How many, may I ask, does it exclude? I like an authority. Hear then the editor of the Journal. "Now there are doubtless very many who are deterred from joining our Association by the annual guinea subscription." See Leading Article, June 25th. Again, in the recent discussion, Dr. Wynter says, out of the guinea subscription, "the sum of fifteen or sixteen shillings is allotted to the yearly volume," five or six shillings being amply sufficient for "general association purposes." Is it not then a logical deduction that the cost of the Journal "deters many from joining our Association."

Rely on it, sir, the present mission of the British Medical or of some other Association *is the union of the profession* in a bond of brotherhood. Of course, this is but a means to an end; but who will deny that professional unity and a real effective working organisation would do more than all else towards "the promotion of medical science and the maintenance of the honour and interests of the medical profession"?

After an existence of more than a quarter of a century, we number but 2,300 members of the 16,000 of the profession; and this, notwithstanding that we have long possessed that excellent attraction—that admirable recruiting element—that "most effective possible plan of carrying out our objects"—that essential element of progress—"a weekly organ of our own". Is it not worth inquiry why the 12,000 stand aloof? Is it not a proof that the Association does not command the confidence of the profession? Having, then, expended our energies and our funds for many years on the maintenance of a weekly Journal, with such a very indifferent result, it surely is not unreasonable to inquire into the causes of our failure, and to turn our attention to some other means of success.

It may then perhaps be found that the improvement of the Journal is not the one thing needful; that even an *improved* Journal is not the most effectual means of adding to our numbers; that it is neither "our duty nor our interest to maintain a weekly organ of our own"; and that an editor and paid contributors are not *the essentials* of our success as an Association.

I am, etc., John Dix.

Hull, March 13th, 1860.

Parliamentary Intelligence.

HOUSE OF LORDS.—Monday, March 12th, 1860.

Administration of Poisons Bill. This Bill passed through Committee.

Medical Acts Amendment Bill. This Bill was read a second time.

Tuesday, March 13th.

Medical Acts Amendment Bill. This Bill passed through Committee.

Administration of Poisons Bill. Certain amendments in this Bill were considered and agreed to, and the Bill was read a third time.

HOUSE OF COMMONS.—Wednesday, March 15th, 1860.

Adulteration of Food, etc., Bill. The House went into committee on this Bill.

On Clause 4, giving power to justices to have articles of food and drink analysed in cases where complaints were brought before them,

Sir G. C. Lewis said he had received a deputation from the bakers, who represented that this Bill would be extremely injurious to their trade, as they would be unable to protect themselves from malicious accusations. A statute was already in existence which in all ordinary cases was sufficiently calculated for the protection of the public, and it was for the committee to consider whether the Bill might not be too general in its terms. The distinction between mixture and adulteration ought also to be clearly defined.

After some further remarks by Mr. J. Locke, Mr. Ayrton, Mr. Roebuck, Mr. Villiers, Mr. Peacock, and Mr. Scholefield,

Clause 4 was ordered to stand part of the Bill.

On Clause 5,

Mr. Roebuck inquired whether an analyst was to be appointed in every little village in England, and how the expense was to be borne?

Mr. Haliburton wanted to know whether the analyst was to be subjected to any competitive examination, and whether he would be appointed by the judge or by the magistrates at quarter sessions. There were not, he believed, half a dozen persons in the country fit to be analysts. Those who were examined at Dr. Smethurst's trial all contradicted one another, and involved the case in such inextricable confusion that the right hon. gentleman opposite was obliged to discharge the prisoner as the only practicable solution of the difficulty. He warned the House against over-legislation, which had produced the greatest evils in both the United States and the colonies. The right hon. gentleman the Secretary of State appeared under some uncertainty with regard to the nature of a mixture; and in reply he would only point to the Government of which he was a member, and say—*si signum quæris circumspice.*

Clause 5 was then agreed to. Clauses 6 to 10 were then agreed to.

Upon Clause 11, which provides that the Bill shall not extend to Ireland and Scotland, the committee divided—

For the clause	101
Against it	81
Majority for the clause . .	—13

Upon Clause 2, which had been postponed, and was in these terms:—

"On the hearing by the justices of any complaint under this Act, the purchaser shall prove to the satisfaction of such justices that the seller of the article of food or drink alleged to be adulterated, or his servants, had such notice of the intention of the purchaser to have such article analysed, and also such opportunity of accompanying the purchaser to an analyst appointed by this Act as the justices shall think reasonable, in order to secure such article from being tampered with by the purchaser;"

Mr. Blackburn pointed out that there would be no protection for any one who bought unwarily a bad article. The purchaser would have to prove that he gave notice to the seller that he bought with the design to have the article analysed, and that he afforded the seller an opportunity of accompanying him to the analyst.

The committee divided,—

For the clause	123
Against it	16
Majority for the clause . .	—107

As it was a quarter to 6 o'clock, the House resumed in accordance with the standing orders.

Medical News.

BIRTHS, MARRIAGES, DEATHS, AND APPOINTMENTS.

** In these lists, an asterisk is prefixed to the names of Members of the Association.*

BIRTHS.

Of sons, the wives of—

Champneys, Henry M., Esq., Surgeon, Slough, on March 11.
Dixon, Henry W., Esq., Surgeon, Stonington, on March 9.
Edmunds, James, Esq., Surgeon, Spital Square, on March 2.
Nourse, W. E. C., Esq., Surgeon, Brighton, on March 6.
Pitman, Henry A., M.D., Gloucester Place, W., on March 11.

Of daughters, the wives of—

Blennerhasset, R. H., Esq., Surgeon, Sussex Street, Belgravia, on March 7.
Bowles, Robert L., Esq., Surgeon, Folkestone, on March 11.
Hoskins, H. R., Esq., Surgeon, Hoxton, on March 10.
Reid, Douglas A., M.D., Pembroke, on March 10.
Whately, C., Esq., Surgeon, Brighton, on March 6. (Stillborn.)

MARRIAGES.

Bryant, Charles, Esq., Surgeon, of Stewkley, Bucks, to Alice, fourth daughter of Thomas Ruscoe, Esq., Barnet, on March 6th.

Easton, Henry F., Esq., Accountant of the Government Stores, Melbourne, to Elizabeth, eldest daughter of Edward Davy, Esq., Surgeon, of Kyneton, on January 17th.

Geary, Joshua F., Esq., of Edmonton, to Annie Elizabeth, eldest daughter of the late Edward A. Cory, Esq., Banstead, Surrey, at Enfield, on March 10th.

*Humphry, Frederick A., Esq., Brighton, to Catherine D., eldest daughter of William Smythe, Esq., of Richmond, on March 8th.

Jessopp, Joseph F., Esq., to Louisa A. W., eldest daughter of *Frederick P. Smith, Esq., of Aylsham, on March 8th.

Jones, William, Esq., Serjeant's Inn, Temple, to Margaret D. E., second daughter of the late John Murray, M.D., Inspector-General of Hospitals in Bengal, at St. John's, Notting Hill, on March 8th.

Lewis, James, Esq., to Charlotte C., eldest daughter of the late William Tracy, Esq., Surgeon, on March 8th.

DEATHS.

Carter. On December 10th, 1859, at Chihuahua, Mexico, Cornelia, wife of Dr. Carter.

Elwin. On March 8th, at 20, Broad Street Buildings, aged 15, Emily J., youngest daughter of Jeken Elwin, Esq., Surgeon.

Falconer, George A., Esq., Surgeon, of Commercial Road East, at Bow, on March 11.

Hill, Ninian, M.D., Lower Norwood, aged 28, on March 2.

Lovell, Matthew, Esq., late of the Bengal Medical Establishment, 27, Harewood Square, on March 8.

Neale. On February 22nd, at Dawlish, Margaret J., widow of Adam Neale, M.D., Physician to the Forces.

*Reedal, Gabriel, Esq., Sheffield, on March 4.

APPOINTMENTS.

Batten, Rayner W., M.B.
Meeres, Edward E., M.D.
Wallace, Alexander, M.B.
} Elected Assistant-Physicians to the Metropolitan Free Hospital.

PASS LISTS.

Royal College of Surgeons. Members admitted at a meeting of the Court of Examiners, on March 9th:—

Castle, W. H. B., Islington
Coathupe, Charles, Clifton
Lundy, Louis F., Feltham
Miller, James, Edinburgh
O'Herlehy, Daniel P., Southampton Street, Strand
Skoulding, Charles H., Wymondham

Chlorophyll. At a recent meeting of the Academy of Sciences in Paris, M. Frémy stated that he had ascertained chlorophyll, the green colouring matter of vegetables, to be composed of two substances, one yellow and the other blue, which he had succeeded in isolating. The yellow colouring matter is soluble in ether; the blue, in hydrochloric acid.

Prosecutions for Illegal Practice in France. On August 23rd, 1859, Madlle. M. Bressac was condemned by default, by the Tribunal of Correctional Police at Lyons, to a fine of 15 *francs*, together with the sum of 500 *francs* to the medical men who had brought the action. After this, she continued to practise illegally; and, at another trial on February 16th, was condemned to pay two fines of 15 *francs*, to pay 1000 *francs* to the medical prosecutors, and to be imprisoned two days. A person named Legarçon has been condemned for a similar offence, by the tribunal of Montfort (Ille-et-Vilaine), to pay all the expenses of his prosecution, together with the sum of 1000 *francs* to the Medical Association of the department of Ille-et-Vilaine.

Head-dress for Soldiers in India. A series of lectures, on the clothing, tents, and housing of the British troops in India and in other tropical countries, has lately been commenced at the United Service Institution, by Dr. Julius Jeffreys, formerly staff-surgeon at Cawnpore. He introduced the subject by remarking that upon the sanitary efficiency of the arrangements made for our army its military efficiency in no small degree depended; and, in the warfare consequent upon the late Indian mutinies, the number of men killed by the assaults of the enemy had scarcely exceeded a tenth of those who were lost by the climate or by sickness. Besides those who died of sun-stroke and apoplexy on the march, or when they lay down at night, the constitutions of many were utterly destroyed by the exhaustion of the skin rendering them incapable of resisting malaria, or of recovering from slight wounds. If we had not providentially had the Sikhs to take much of the duties which required exposure in the heat of the day, our small army would either have been exterminated by disease, or so reduced in strength as to be insufficient for its task. It was a mistake, however, to suppose that this destruction of British life and health was an inevitable accompaniment of our retaining a great tropical dependency like India; and, with the help of science, it would be possible to provide such protection for British troops as would enable them to keep the field at all seasons. Dr. Jeffreys exhibited and explained a peculiar helmet, which he had invented. He does not rely upon the principle of employing a material which is a slow conductor of heat; nor does he attach great importance to mere thickness of substance, having observed that, in buildings, a roof of thatch or of solid masonry, one or two feet thick, proves insufficient, without great interior loftiness, to save the inmates from being distressed by the solar heat. The helmet which he has contrived is one which admits of a double current of air entering through holes around the brim, and escaping through holes in a metal coronet at the top, a considerable space being kept between the sides of the hat and the head. There is a cap of horsehair open work on the top of the head, and the hat is attached to this cap by pins and bands, in such a manner as not to hang loosely upon the head, whilst yet it does not press the brow. The top of the helmet, to receive the vertical rays of the sun, is coated with aluminium, or some other bright metal, as are likewise the interior surfaces, to prevent the downward radiation of heat. There is an apparatus for tightening the cap when necessary, by simply turning a thumbscrew; and in the front, a pair of eyeguards may be lowered in a moment, to keep off the glare of the sun.

A Tiger killed by Strychnine. The *Bombay Times* describes the killing of a tiger by strychnine. The tiger infested some low undergrowth at the bottom of a garden, and it was resolved to destroy it. A buffalo recently killed by the tiger was taken, and a quantity of strychnine was strewed in the bitten flesh. The tiger came, ate as usual, and died immediately.

HEALTH OF LONDON—MARCH 10th, 1860.

[From the Registrar-General's Report.]

		Births.	Deaths.
During week	Boys.. 919, Girls.. 867	1786	1397
Average of corresponding weeks 1849-58		1768	1365

Among the causes of death were—bronchitis, 230; pneumonia, 114; phthisis, 143; small-pox, 31; scarlatina, 51; measles, 16; diphtheria, 9; hooping-cough, 42. The deaths from pulmonary diseases (exclusive of phthisis) were 387, being 82 above the corrected average.

Barometer:
Highest (Tues.) 30·295; lowest (Sun.) 29·596; mean 29·995.

Thermometer:
In sun—highest (Sun.) 85·1 degrees; lowest (Wed.) 51·0 degrees.
In shade—highest (Sun.) 51·0 degrees; lowest (Sat.) 23·5 degrees.
Mean—36·0 degrees; difference from mean of 43 yrs.—4·1 degrees.
Range—during week, 27·5 degrees; mean daily, 13·5 degrees.

Mean humidity of air (*saturation*=100), 80.
Mean direction of wind, Var.—Rain in inches, 0·32.